SHOUT
SHARE
IT

LIBRARY
OF THE
UNIVERSITY
OF ILLINOIS

580.5
FB
v.22

BIOLOGY
HISTORY
JUN 30 1944

STUDIES OF AMERICAN PLANTS—XI

BY

PAUL C. STANDLEY

CURATOR OF THE HERBARIUM, DEPARTMENT OF BOTANY

THE LIBRARY OF THE
SEP 18 1940
UNIVERSITY OF ILLINOIS

BOTANICAL SERIES
FIELD MUSEUM OF NATURAL HISTORY
VOLUME 22, NUMBER 3
SEPTEMBER 10, 1940

PUBLICATION 478

PRINTED IN THE UNITED STATES OF AMERICA
BY FIELD MUSEUM PRESS

80.5
FB
1.22[3]

STUDIES OF AMERICAN PLANTS—XI

PAUL C. STANDLEY

OCT 21 1940 SCHROEPPEL

Perhaps the most important of the plants discussed on the following pages are new species obtained by Dr. Julian A. Steyermark, Assistant Curator of the Herbarium of Field Museum, during the Stanley Field Expedition of 1939–40 to Guatemala. This expedition, designed to obtain material for the *Flora of Guatemala*, now in course of preparation by Dr. Steyermark and the writer, was exceptionally successful in discovering plants new to the Guatemalan flora, including numerous new species. Those described here are only a few of the most striking and easily recognized ones, from a small portion of the total collection.

Another series that has yielded a surprising number of new plants is one made during the early months of 1940 by Mr. and Mrs. R. A. Terry in the Province of Darién, Panama. That portion of Panama is almost unknown botanically, and it is therefore not surprising that the Terry collection contains numerous new species, besides genera and other species new to the North American flora.

About half of the paper consists of descriptions of new Rubiaceae or of notes upon species previously published. Large quantities of material of this family have been received for critical determination, and it has seemed preferable to publish without further delay reports upon some of the more interesting elements of these collections.

There are included in the present paper descriptions of several new species detected by Dr. Steyermark, and included here at his suggestion.

DIOSCOREACEAE

Dioscorea Aguilarii Standl. & Steyerm., sp. nov.—Herbacea volubilis, caulibus elongatis gracillimis glabris vel breviter patulo-pilosis; folia modica longipetiolata membranacea, petiolo gracili 2–3.5 cm. longo breviter patule piloso; lamina hastato-lobata 4.5–8.5 cm. longa basi 2.5 cm. lata, supra glabra, subtus densiuscule pilis albis patulis hirsuta, lobo medio anguste lanceolato-oblongo basi 1.4–2.2 cm. lato longe angusteque attenuato trinervio, lobis posticis usque 2 cm. altis rectangule divergentis subquadratis, angulis rotundatis, lateribus exterioribus subtruncatis vel late concavis, binerviis; spicae masculae elongatae gracillimae tortuosae geminatae

longipedunculatae, parte florifera 2–5 cm. longa, rhachi patule pilosa, floribus in spiculas pluri- vel multifloras sessiles usque 7 mm. longas densas aggregatis; perianthii segmenta vix 1 mm. longa ovalia obtusa glabra; stamina 6, filamentis brevissimis.—Guatemala: Dept. Guatemala, in 1939, *Ignacio Aguilar* 90 (type in Herb. Field Mus.).

The foliage is distinctive because of the hastate and copiously pubescent blades. The basal lobes are almost square in general outline, but on the outer side, between the rounded corners, they are somewhat concave.

Dioscorea Vargasii Standl., sp. nov.—Herba gracillima volubilis, caule viridi glabro valde elongato, internodiis solemniter elongatis; folia alterna parva petiolata membranacea, petiolo gracili 8–12 mm. longo glabro vel sparse papilloso-scabro; lamina lanceolato-oblongo-cordata 4–6.5 cm. longa 1.2–1.8 cm. lata apicem acutum vel subulato-acutum versus paullo angustata, basi profunde (usque 1.5 cm.) cordata, sinu angusto saepe clauso, lobis posticis retrorsis vel paullo introrsis rotundatis, e basi 7-nervia, supra viridis glabra, subtus paullo pallidior ad nervos sparse papilloso-scabra, aliter glabra, nervis prominentibus apicem attingentibus vel exterioribus in marginem desinentibus; flores parvi virides racemosi, racemis laxe paucifloris graciliter breviterque pedunculatis, pedunculo incluso 2–3 cm. longis fere 1 cm. latis glabris, pedicellis filiformibus 2.5–4 mm. longis, bracteis parvis hyalinis vel viridescentibus; perianthium 2 mm. longum vel paullo ultra, segmentis oblongis obtusis patulis; stamina 3, filamentis brevissimis.—Peru: Hacienda Urco, Prov. Calca, Dept. Cuzco, alt. 2,960 meters, January, 1938, *César Vargas C.* 691 (type in Herb. Field Mus.).

The species is notable for the small and unusually narrow leaves, very deeply and narrowly cordate at the base. It is a pleasure to name it for Dr. Vargas, who has collected an extensive series of handsomely prepared specimens in various parts of Peru, but particularly in the Department of Cuzco.

MARANTACEAE

Calathea macrochlamys Woodson & Standl., sp. nov.—Herba elata ca. metralis ut videtur simplex, caule 1-foliato tereti 7–15 cm. crasso sparse pilis albidis laxis brevibus subadpressis piloso, ad nodum apicalem dense sericeo; folium caulem terminans magnum longipetiolatum papyraceum, petiolo 28–38 cm. longo sparse laxeque subadpresso-piloso vel fere glabro 8.5–11 cm. longe vaginato, vagina basi ca. 2 cm. lata sursum sensim attenuata, ligula brevissima,

petiolo 5–6 cm. infra basin laminae geniculato, nodo tereti laevi lucido aliquanto indurato petiolo vix crassiore; lamina ovalis vel late oblonga in sicco pallide viridis ca. 50 cm. longa et 18–20 cm. lata vel major, apice rotundata et breviter acuminato-apicata, basi subrotundata et subito contracta, fere concolor, glabra vel glabrata, costa gracili subtus elevata, nervis tenerrimis numerosissimis subtus prominulis leviter arcuatis; inflorescentia terminalis e basi petioli nascens basi bracteata breviter pedunculata vel subsessilis, primo 5–6 cm. longa et 3–4 cm. lata, post anthesin recurvata et elongata, dense pauciramosa et subpaniculata; bractea basalis lanceolato-oblonga 5.5–11 cm. longa longiattenuata inflorescentiae adpressa, bracteis interioribus numerosis oblongis vel ovato-oblongis 12–20 mm. longis in sicco stramineis striatis sparse sericeo-pilosis vel fere glabris, floribus breviter pedicellatis; sepala subaequalia latiuscule ovato-oblonga obtusa vel acutiuscula ca. 11 mm. longa et 3.5 mm. lata, basi infima tantum coalita, basi minute puberula, aliter glabra; ovarium suboblongum 2 mm. longum glabrum 3-loculare; petala 3; staminodia nulla(?).—Mexico: Tenosique, Tabasco, June 14–16, 1939, *E. Matuda* 3399 (type in Herb. Field Mus.; duplicate in Herb. Mo. Bot. Gard.). Uvero, Oaxaca, 30–90 meters, common along roadsides in cut-over forest land, May, 1937, *Llewelyn Williams* 9324 (Herb. Field Mus.).

The vernacular name is reported by Williams as Pozolillo. In gross appearance the present plant is very unlike any of the numerous species of *Calathea* that form so prominent a part of the vegetation in the humid lowlands of southern Mexico and Central America. All of them have a simple inflorescence subtended by imbricate and usually very broad bracts, while in *C. macrochlamys* the inflorescence is lobate and branched, and all the bracts are comparatively narrow, not closely imbricate. The Mexican plant is closely related to *C. lateralis* (R. & P.) Lindl., of Peru and Colombia, represented in the Herbarium of Field Museum by a photograph of the Ruiz and Pavón type, from Cochero, Peru, and by *Lehmann* 5297 from the Andes of Popayán, Colombia. The differences observable between the South American and Mexican plants, while individually not conspicuous, when considered together are so numerous that it seems certain that the northern plant is specifically distinct.

PIPERACEAE

Piper canaense Standl., sp. nov.—Frutex 1–1.5 m. altus, ramulis ca. 4 mm. crassis striatis glabris nodosis, internodiis superioribus elongatis; folia magna breviter petiolata in sicco papyracea,

petiolo crasso 15–20+5 mm. longo glabro; lamina lanceolato-oblonga 23–32 cm. longa 8–12.5 cm. lata longiuscule attenuato-acuminata, bas valde inaequilatera uno latere rotundata, altero subcordata, glabra, supra in sicco fusca sublucida, costa nervisque manifestis sed fere planis, venis prominulis laxe reticulatis, subtus pallidior ubique nigro-punctata aliquanto lucida, costa gracili prominente striata, nervis lateralibus uno latere 5, altero 4, valde obliquis teneris angulo angusto adscendentibus arcuato-junctis, venis prominulis laxe reticulatis; spicae graciles solitariae graciliter ca. 2 cm. longe pedunculatae in statu fructifero 12–13 cm. longae 4–6 mm. crassae; baccae globosae glabrae vix 2 mm. longae apice rotundatae vel subdepressae, stigmatibus brevibus.—Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 10, 1940, *M. E. & R. A. Terry* 1461 (type in Herb. Field Mus.).

An apparently well marked species, quite unlike any other Central American one examined, noteworthy for the unusually large leaves which are somewhat bicolorous, and markedly asymmetric at the base.

Piper cuasianum Standl., sp. nov.—Frutex 1–1.5 m. altus, ramis gracilibus striato-costatis fuscis sat dense longivillosis, internodiis 4.5–5 cm. longis, nodis paullo incrassatis; folia modica brevissime petiolata herbacea, petiolo ca. 5–6+7–10 mm. longo longivilloso; lamina aliquanto asymmetrica lanceolato-oblonga 14–19 cm. longa 5–8 cm. lata longe angusteque acuminata, basi valde inaequilatera utroque latere anguste rotundata vel subtruncata, lamina basin versus paullo angustata, supra in sicco fusca sparse villosa, subtus pallidior brunnescens dense minute puncticulata subsparse pilis longis patulis sordide brunneis villosa, pinnatinervia, costa gracili prominente, nervis lateralibus utroque latere supra basin 4 teneris omnibus e medio inferiore laminae nascentibus angulo semirecto vel angustiore adscendentibus subarcuatis versus apicem laminae arcuato-junctis, venis prominulis laxe reticulatis; pedunculi solitarii graciles 4 cm. longi longivillosi; spicae 4.5 cm. longae 5 mm. latae apice angustatae.—Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 12, 1940, *M. E. & R. A. Terry* 1531 (type in Herb. Field Mus.).

A plant of distinctive appearance because of the rather large leaves with abundant pubescence of long, soft, dirty brown hairs, and the long-stalked, short and broad spikes.

Piper Terryae Standl., sp. nov.—Frutex 60–120 cm. altus, ramulis crassiusculis dense hirsuto-villosis, internodiis ut videtur

brevibus; folia magna breviter petiolata tenuiter membranacea, petiolo crasso usque 12 mm. longo dense villoso; lamina obovata 18–23 cm. longa 7.5–13 cm. lata obtusa vel acutata, basin versus arcuato-cuneatim angustata, basi ipsa late cuneata et breviter cordata, supra in sicco fusca densiuscule pilis usque 3 mm. longis laxis pallidis patentibus villosa, subtus paullo pallidior similiter villosa dense minuteque papillosa pinnatinervia, nervis lateralibus utroque latere 4 tenerrimis obliquis angulo semirecto adscendentibus omnibus prope medium arcuato-junctis, venis paucis prominentibus laxe reticulatis; pedunculi solitarii ca. 3.5 cm. longi graciles brunneo-papillosi dense pilis longis patulis pallidis villosi; spicae anguste oblongae 3.5 cm. longae 8 mm. latae apice rotundatae; baccae sessiles globosae glabrae, stigmatibus brevissimis.—Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 10, 1940, *M. E. & R. A. Terry* 1459 (type in Herb. Field Mus.).

No Central American *Piper* at all similar to this has been noted. It is striking in appearance because of the combination of abundant, long pubescence, large, very thin leaves, narrowly and shallowly cordate at the base, and short, broad spikes, borne on long and slender peduncles.

MORACEAE

Ficus caballina Standl. Field Mus. Bot. 13: 301. 1937.—A species of singular appearance because of its large, greatly elongate, narrow, almost sessile leaves, based upon one collection from the Department of Loreto, Peru. It has been found recently in Bolivia: Dept. La Paz, Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, a tree of 9 meters, July, 1939, *B. A. Krukoff* 10432.

Ficus Killipii Standl. Field Mus. Bot. 13: 304. 1937.—Described from the departments of Junín and Ayacucho, Peru. Recently collected specimens from the eastern lowlands of the Department of La Paz, Bolivia are conspecific: Prov. S. Yungas, basin of Río Bopi, Asunta, near Evenay, 690–750 meters, July, 1939, *B. A. Krukoff* 10641, 10603; a tree of 22–36 meters. Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, July, 1939, *Krukoff* 10335; a tree of 15 meters.

Ficus Macbridei Standl. Field Mus. Bot. 13: 305. 1937.—A species based upon *Macbride* 5090 from the Department of Huánuco, Peru. It may now be reported from Bolivia: Dept. La Paz,

Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, July, 1939, a tree of 12 meters, *B. A. Krukoff* 10534.

Ficus regularis Standl. Bot. Ser. Field Mus. 17: 175. 1937.—All the material thus far known of this species has been collected by Mr. B. A. Krukoff, who obtained the original collections in Amazonas and the Territory of Acre, Brazil. He has found it recently also in Bolivia: Dept. La Paz, Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, July, 1939, a tree of 13–30 meters, *Krukoff* 10524, 10523.

Poulsenia armata (Miq.) Standl. Trop. Woods 33: 4. 1933.—For a discussion of the synonymy and distribution of this monotypic genus, see the notes in the publication cited. In South America the tree has been known heretofore from the Santa Marta region of Colombia, and from the lowland coastal forests of El Recreo, Ecuador. The following collection indicates that its range is much wider, and extends to a region in which it would scarcely have been expected in view of its previously recorded range: Bolivia: Dept. La Paz, Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, July, 1939, *B. A. Krukoff* 10282. Described by the collector as a tree of 22 meters.

POLYGONACEAE

Coccoloba Steyermarkii Standl., sp. nov.—Arbor, ramulis teretibus striatis ochraceis glabris, internodiis plerumque brevibus; ochreae ca. 9 mm. longae minute puberulae brunneae cito deciduae; folia modica breviter petiolata coriacea, petiolo crassiusculo usque 1.5 cm. longo glabro; lamina angustissime lanceolato-oblonga 14–19.5 cm. longa 4–5 cm. lata glabra longe angusteque attenuato-acuminata, apice ipso obtuso, basi obtusa vel anguste rotundata, supra in sicco sublucida pallida densiuscule fusco-punctata, costa prominula, nervis venisque prominulis et arcte reticulatis, subtus pallidior, minute puncticulata, costa gracili elevata, nervis lateralibus utroque latere ca. 14 tenerrimis inconspicuis angulo lato abeuntibus aliquanto irregularibus juxta marginem junctis, venulis vix prominulis arcte reticulatis; spicae terminales vel axillares solitariae vel geminatae fere sessiles 4.5–8 cm. longae ca. 8 mm. latae subdense multiflorae, rhachi crassiuscula dense puberula, ochreolis puberulis ca. 1.5 mm. altis, pedicellis crassis puberulis ochreolis duplo longioribus; perianthium glabrum 2.5 mm. longum, segmentis basi breviter connatis ovalibus apice rotundatis minutissime puncticulatis; an-

therae subglobosae breviter exsertae.—Guatemala: Dept. Izabal, Río Dulce, 2–4 miles west of Livingston, on south side (left-hand side going up the river), at sea level, April 16, 1940, *Julian A. Steyermark* 39533 (type in Herb. Field Mus.).

The flowers are described as whitish green. The species is remarkable for its narrow leaves, more elongate and narrower than those of any other Central American species, except *C. acuminata* HBK., to which it is not closely related. It is similar to *C. escuintlensis* Lundell, of the Pacific slope of Guatemala and of Chiapas, but that has broader leaves, almost concolorous and with much fewer nerves.

NYCTAGINACEAE

Neea mapirensis Standl. Field Mus. Bot. 11: 78. 1931.—When described, this species was based upon a single collection, *Buchtien* 1993 from San Antonio, near Mapiri, Bolivia. The following additional collections are now available from Bolivia: Dept. La Paz, Prov. Larecaja, Copacabana, about 10 km. south of Mapiri, alt. 850–950 meters, October–November, 1939, *B. A. Krukoff* 11383. Tuiri, near Mapiri, left bank of Río Mapiri, Prov. Larecaja, alt. 490–750 meters, September, 1939, *Krukoff* 10838. The species is an unusually well marked one, for this genus, because of its large leaves, copiously pubescent on the lower surface.

Salpianthus Standleyi Steyermark, sp. nov.—Frutex divaricatus 1.75 m. altus; ramulis geniculatis viridibus rubro-striatis glabris vel apicibus minute puberulis; foliis alternis, ovato-ellipticis, 2–9 cm. longis, 1–3.3 cm. latis, concoloribus, acutis, glabris, basi abrupte et acute attenuatis, subpetiolatis, triplinerviis, latioribus quam longis; inflorescentia cymoso-paniculata densa, 1–3 cm. longa, cymis densis, 1.5–8 cm. latis, ramulis minute puberulis; floribus 3.5–4 mm. longis, breve pedicellatis, hirsutulis, lobis albis, deltoideo-ovatis, extus hirsutulis, intus glabris, tubo perianthii cylindrico-infundibuliformi, viridi, 3 mm. longo, 1.5–1.75 mm. lato, extus hirsutulo; semine fusco-nigro.—Mexico: Guerrero, Barranca del Consuelo, above stream in open, Sierra Madre del Sur, north of Río Balsas, Distrito Adama, November 11, 1937, *Ynes Mexia* 8783 (type in Herb. Field Mus.).

In the strongly flexuose mode of branching of the stems, *Salpianthus Standleyi* simulates *S. aequalis* Standl. It differs from *S. aequalis*, however, in its broader, densely paniculate-cymose inflorescence, smaller perianth, mostly glabrous stems, more shortly pedicellate flowers, and glabrous leaves.

BERBERIDACEAE

Berberis Johnstonii Standl. & Steyerm., sp. nov.—Frutex 2–2.5 m. altus glaber, ramis crassis paucis teretibus rimosis ochraceis dense foliatis, internodiis abbreviatis; folia modica pinnata 2–6 cm. longe petiolata, petiolo rhachique gracilibus rigidis nudis; foliola 5–9, saepius 7, coriacea sessilia integra vel subundulata subaequalia plerumque elliptico-oblonga, interdum oblonga vel ovali-oblonga, plerumque 3–5 cm. longa et 1.5–2.5 cm. lata, apice rotundata vel obtusissima et interdum retusa, basi aliquanto asymmetrica late cuneata, supra in sicco cinereo-viridia lucida, nervis venisque pallidis prominulis, subtus pallidiora, costa tenera prominente, nervis venisque prominulis et arcte reticulatis, margine saepe plus minusve revoluto; inflorescentia ignota.—Guatemala: Parramos, Dept. Sacatepéquez, December 14, 1938, *J. R. Johnston* 1525 (type in Herb. Field Mus.). Damp thicket near Pastores, Dept. Sacatepéquez, alt. 1,600 meters, December 14, 1938, *Standley* 59895. Dry, rocky hills north of Santa Rosa, Dept. Baja Verapaz, in pine-oak forest, March 30, 1939, *Standley* 69801.

The first two collections actually are from the same locality and perhaps from the same plant. It belongs, of course, to the group *Mahonia*, treated as a genus by many authors. The only other Guatemalan species related to *Berberis Johnstonii* is one that has been passing as *Mahonia fascicularis* DC., a name that probably does not belong properly to the Central American shrub. The plant here described is known, unfortunately, only in a sterile state, but the foliage is so distinctive in its entire leaflets that there is little doubt that it represents a well differentiated species.

MAGNOLIACEAE

Talauma sambuensis Pittier, Contr. U. S. Nat. herb. 20: 105. 1918.—The species was based on *Pittier* 5681 from Boca de Pauarandó, Sambú River, Darién, Panama. Recently it has been re-collected in the same province: Cana–Cuasi trail, Camp 1, Chepigana District, alt. 240 meters, March, 1940, *M. E. & R. A. Terry* 1420. Described as a tree of 24–30 meters, with white flowers. The occurrence of a member of this family at or near sea level is unusual, so far as Central America is concerned. Other Central American species of *Talauma* and *Magnolia* grow normally in the higher mountains.

CAPPARIDACEAE

Capparis Steyermarkii Standl., sp. nov.—Frutex vel arbuscula, ramis crassiusculis subteretibus densissime pilis sessilibus stellatis

brunneis velutino-tomentosis, internodiis brevibus; folia magna petiolata crasse membranacea, petiolo crasso 1.5–3.3 cm. longo densissime brunneo-stellato-tomentoso; lamina obovata vel oblongo-obovata 18–21.5 cm. longa 6–10.5 cm. lata apice lato abrupte acuminata vel longiacuminata, basin versus paullo cuneato-angustata, basi ipsa obtusa, supra primo stellato-tomentosa sed cito glabrata, costa nervisque prominulis, venis quoque prominulis et arcte reticulatis, subtus paullo pallidior ubique molliter stellato-pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 11 elevatis angulo latiusculo adscendentibus fere rectis prope marginem arcuato-conjunctis, venis prominentibus arctissime reticulatis; inflorescentiae axillares umbellato-racemosae vel simpliciter umbelliformes folia fere aequantes longissime pedunculatae cum pedunculo usque 13 cm. longae, ramis pedicellisque dense pilis mollibus fulvis vel brunnescentibus stellato-pilosis, pedicellis gracilibus usque 17 mm. longis, bracteis infimis usque 6 mm. longis, superioribus multo brevioribus; sepala 5–6 mm. longa linearia in alabastro sejuncta dense stellato-pilosa; petala alba late obovata sessilia 7–8 mm. longa apice rotundata extus dense pilis subadpressis stellato-pilosa; torus globoso-ovoideus 1.5 mm. altus puberulus, gynophoro ca. 7 mm. longo stellato-piloso, ovario lineari ca. 5 mm. longo; stamina 8, filamentis solemniter elongatis basi stellato-pilosis superne glabris, antheris lineari-oblongis glabris.—Guatemala: Dept. Izabal, Río Dulce, between Livingston and 6 miles up river, on north side (right-hand side going up river), near sea level, April 14, 1940, *Julian A. Steyermark* 39387 (type in Herb. Field Mus.).

"Petals white, easily caducous. Leaves firmly chartaceous, dark, rich green above, pale green beneath and sulcate along the nerves. Rachis and young stems ferruginous." There is no obvious relationship between this plant and any other *Capparis* known from Central America. The abundant, soft, brownish, stellate pubescence of almost all parts is particularly distinctive.

CONNARACEAE

Pseudoconnarus Krukovii Steyermark, sp. nov.—Planta volubilis, ramulis teretiusculis glabris; foliis trifoliolatis, longipetiolatis, coriaceis; rhachi 7–11 cm. longa plerumque glabra vel minute puberula; foliolis basi triplinerviis, nervis lateralibus 4, supra nitidulis glabris reticulatis, subtus pallidis subglaucescentibus papillosis minute puberulis vel subglabratis, forte reticulatis; petiolulo crasso 4–7 mm. longo; foliolo terminali late ovato vel elliptico-ovato 10–15 cm. longo, 5–9 cm. lato, apice acuto, basi cuneato vel rotundato;

foliolis lateralibus similibus sed minoribus 6–10 cm. longis, 5–7 cm. latis; inflorescentia paniculata axillari pedunculata 8–15 cm. longa laxe multiramosa, ramis patenti-adscendentibus minute et parce velutinis vel subglabratis robustis, pedicellis robustis 4–10 mm. longis minute parce velutinis; floribus non visis, lobis calycis in fructu 2–2.5 mm. longis, 1.75–2.5 mm. latis minute ciliatis, extus minute parce velutinis vel subglabratis patenti-adscendentibus suborbiculato-oblongis obtusis; fructu 10–13 mm. longo glabro clavato apiculato.—Brazil: Amazonas, Municipality Humayta, near Tres Casas, September 14–October 11, 1934, *B. A. Krukoff* 6455 (type in Herb. Field Mus.; duplicate in Herb. N. Y. Bot. Gard.). Municipality Humayta, near Livramento, on Rio Livramento, October 12–November 6, 1934, *Krukoff* 6956, 6659.

Because its leaflets are strongly reticulated on the lower surface, this species of *Pseudoconnarus* is closely related to *P. reticulatus* Schellenberg, and to *P. subtriplinervis*. It differs, however, from *P. reticulatus* in its glabrous or nearly glabrous branches, petioles, and petiolules, and in the nearly glabrous lower surface of the leaflets. From *P. subtriplinervis* it differs in the shape of the leaflets, which are broadly elliptic-ovate and not elliptic, and in the nearly glabrous branches and foliage.

Rourea Krukovii Steyermark, sp. nov.—Frutex scandens, ramulis ferrugineo-velutinis vel subglabratis; foliis 7–9-foliolatis; rhachi robusta 8–13 mm. longa minute velutina; petiolulo crasso 4–6 mm. longo minute velutino; foliolis coriaceis revolutis ellipticooblongis, 3.5–12 cm. longis, 2.5–6 cm. latis, apice acuminatis, basi rotundatis, supra glabris opacis reticulatis, subtus pallidis subglaucescentibus dense reticulatis sed non rugosis; inflorescentia paniculata terminali pedunculata 8–13 cm. longa dense ferrugineo-puberula, ramulis dense multifloris, pedicellis robustis 2–4 mm. longis, dense ferrugineo-puberulis, bracteis minutis ovato-lanceolatis ferrugineo-puberulis; floribus non visis; calyce in fructu 5.5–7 mm. longo, lobis 4–5 mm. longis, 2–3 mm. latis, oblongo-ovatis, intus parce puberulis, extus dense ferrugineo-velutinis, forte erecto-adpressis; fructu parce velutino oblongo obtuso basi substipitato 6–7 mm. longo.—Brazil: Amazonas, Municipality São Paulo de Olivença, near Palmares, September 11–October 26, 1936, *B. A. Krukoff* 8556 (type in Herb. Field Mus.; duplicate in Herb. N. Y. Bot. Gard.).

In the nonglandular, velutinous or tomentose calyx and fruit, *Rourea Krukovii* appears to be a member of the recently described section *Indutae* Schellenberg (Pflanzenreich IV. 127: 199. 1938).

It is well characterized by its revolute leaflets, calyx lobes appressed in fruit, ferruginous tomentum of peduncles and rhachis, and leaflets strongly reticulate and glaucescent on the lower surface.

LEGUMINOSAE

Bauhinia Killipiana Standl., sp. nov.—Frutex scandens ut videtur inermis, caule gracili dense pilis brunneis mollibus longis patulis piloso; stipulae falcato-semiovatae usque 8 mm. longae obtusae vel subacutae virides sparse pilosae palmatinerviae; folia majuscula biloba longipetiolata subcoriacea, petiolo gracili 4–5.5 cm. longo dense patenti-piloso; lamina ambitu rotundato-ovata 11–14.5 cm. longa 8.5–10 cm. lata fere ad medium biloba, basi profunde angusteque cordata, sinu 2.5–3.5 cm. alto fere clauso, e basi 13-nervia, lobis acutiusculis usque breviter acuminatis, supra lucida glabra, nervis prominentibus, venulis prominulis et arctissime reticulatis, subtus ubique dense molliterque pilosa, pilis plerumque patulis, nervis prominentibus gracilibus, venis prominentibus laxe reticulatis; flores racemosi, racemis terminalibus simplic bus laxe multifloris longipedunculatis recurvis ca. 8 cm. longis, rhachi dense pilis ferrugineis longipilosa, bracteis viridibus lanceolato-linearibus ca. 8 mm. longis ut videtur persistentibus, pedicellis gracilibus usque 7 mm. longis dense pilosis; flores in alabastris tantum visi, calycis tubo late ovoideo ca. 7 mm. longo et 5 mm. fere lato densissime pilis longis patentibus ferrugineis vestito, lobis lineari-lanceolatis viridibus erecto-incurvis 4–5 mm. longis acuminatis.—Peru: Juanjuí, Dept. San Martín, Alto Río Huallaga, alt. 400–800 meters, in forest, April, 1936, *G. Klug* 4289 (type in Herb. Field Mus.).

Bauhinia Klugii Standl., sp. nov.—Frutex scandens cirrhiferus ut videtur inermis, ramis crassiusculis subteretibus densissime pilis brevibus ferrugineis plerumque patulis tomentosis, internodiis brevibus; stipulae deciduae, non visae; folia modica breviter petiolata firme membranacea, petiolo 1–1.5 cm. longo dense ferrugineo-tomentoso; lamina 5–8 cm. longa 5–8 cm. lata ad tertiam partem biloba, basi truncata vel brevissime lateque subcordata, e basi 11-nervia, lobis paullo obliquis late ovatis obtusis vel breviter acutis, supra sublucida primo sparse pilis longiusculis laxis subadpressis pilosa, cito glabrata, venulis prominulis arctissime reticulatis, subtus pallidior, ubique, ad nervos densius, pilis brevibus subadpressis ferrugineis vel pallidioribus pilosa, venis prominentibus arcte reticulatis; flores racemosi, racemis terminalibus fasciculatis vel paniculatis pedunculatis sat dense pauci- vel multifloris usque ad 7 cm. longis, panicula interdum ad 12 cm. longa et 6.5 cm. lata pauciramosa,

ramis oblique adscendentibus densissime ferrugineo-tomentosis, pedicellis crassiusculis ad 5 mm. longis, bracteis ferrugineis patentibus lineari-attenuatis ad 5 mm. longis; calyx 7–8 mm. longus late campanulatus basi acutiusculus extus dense pilis patulis vel subadpressis ferrugineis pilosus, in alabastro subrostratus, lobis paullo inaequalibus triangulari-ovatis tubo subaequalibus; petala glabra lata calyce fere duplo longiora; stamina fertilia 10; ovarium dense pilis longis subadpressis ferrugineis indutum.—Peru: Mountain forest, Chazuta, Río Huallaga, Dept. San Martín, alt. 260 meters, a liana, the buds golden yellow, March, 1935, *G. Klug* 4027 (type in Herb. Field Mus.).

Brownea loretensis Standl., sp. nov.—Arbor 10-metralis, trunco ca. 15 cm. diam., ramulis gracilibus subteretibus fuscis elevato-lenticellatis, internodiis elongatis glabris vel glabratis; folia 8–14-foliolata majuscula breviter petiolata, petiolo 2–3.5 cm. longo basi incrassato, rhachi gracillima 8–18 cm. longa subtereti fusca glabra, foliolis alternis vel suboppositis, petiolulis ca. 3 mm. longis; foliola subcoriacea anguste oblonga vel lanceolato-oblonga, interdum oblanceolato-oblonga plerumque 7–11 cm. longa et 2–3 cm. lata longissime caudato-acuminata, acumine fere lineari usque 2.5 cm. longo, basi rotundata vel obtusissima, supra glabra lucida, nervis venisque prominulis, venulis arctissime prominulo-reticulatis, subtus paullo pallidiora ad costam teneram prominentem sparse hispidula vel fere omnino glabra, nervis irregularibus remote a margine conjunctis, venulis prominentibus arctissime reticulatis; inflorescentia terminalis breviter racemosa capituliformis, corollis inclusis ca. 9 cm. longa et 16 cm. lata, dense multiflora, rhachi 3.5 cm. longa dense fulvo-tomentosa; bracteae extimae parvae rotundatae dense sericeae, interiores obovato-spathulatae ad 4 cm. longae et 1.5 cm. latae obtusae dense ubique fulvo-tomentellae; bracteolae ca. 22 mm. longae ad medium connatae extus dense fulvo-tomentellae; calyx ca. 4.5 cm. longus extus glaber vel superne sparsissime pilosulus, segmentis spathulato-oblongis apice rotundatis; petala ca. 6.5 cm. longa coccinea rotundata et apiculata.—Peru: On rising ground, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, *José M. Schunke* 11 (type in Herb. Field Mus.).

Local name Paloicruz (palo de cruz?).

Galactia acuminata Steyermark, sp. nov.—Planta scandens, ramulis tenuibus parce pilis adpressis ferrugineis pubescentibus; foliis imparipinnatis, foliolis 3, lanceolatis vel anguste ellipticis apice acuminato-aristatis, basi acutis vel subacutis, foliis petiolis exclusis 5–7.5 cm. longis, 1.2–1.7 cm. latis, foliolo terminali longissimo,

foliolis integris, supra praeter costam mediam parce pubescentem glabris, subtus strigilloso-pubescentibus, costa media dense strigilloso-pubescente, membranaceis, concoloribus, nervis lateralibus divaricatis non conspicuis, petiolo tenui, 4.5–5.5 mm. longo, parce strigilloso-pubescente, stipulis subulato-aristatis ca. 3 mm. longis, petiolulis lateralibus 2–2.5 mm. longis, basi bracteis subulatis 1.5 mm. longis fulcratis, petiolulo terminali longiore 8–9 mm. longo; floribus paucis, basi petioli subumbellatis, pedicellis tenuibus 4–6 mm. longis, retrorse strigilloso-pubescentibus; calyce tubuloso, 5-fido, strigilloso-pubescente, lobis 2 longioribus; corolla quam calyce longiore; ovario dense strigilloso-pubescente.—Mexico: Finca Juárez, Chiapas, August 12, 1937, *E. Matuda* 1741 (type in Herb. Field Mus.).

This new species of *Galactia* is readily distinguished from other members of the genus by its long-acuminate, membranaceous leaves which are narrowly elliptic or lanceolate, and sparsely strigillose-pubescent on the lower surface.

Pithecolobium chazutense Standl., sp. nov.—Arbor 15-metralis, ramulis crassis ferrugineo-puberulis; stipulae non visae; folia majuscula, petiolo nudo 3–4 cm. longo, rhachi 6–9 cm. longa subtereti ferrugineo-puberula vel breviter pilosula, glandulis solitariis inter paria pinnarum parvis incrassatis crateriformibus; pinnae 5-jugae 13–14 cm. longae, infimae duplo breviores; foliola usque 15-juga sessilia membranacea oblonga vel basi paullo latiora plerumque 2–2.5 cm. longa et 7–10 mm. lata, obtusissima vel rotundata et apiculata, basi oblique rotundata, supra in sicco lucida ad costam puberula, aliter glabra, venis non elevatis, subtus pallidiora glabra, costa paullo excentrica, nervis paucis remotis prominulis; flores dense capitati ochroleuci fere omnino glabri, capitulis globosis 3 cm. diam. solitariis vel paucifasciculatis, pedunculo gracili 6–8 cm. longo hirtello nudo, bracteis parvis inconspicuis; calyx late campanulatus vix ultra 1.5 mm. altus minute inaequaliter dentatus, dentibus late triangularibus obtusis minute glandulosis; corolla graciliter tubulosa 9 mm. longa, tubo sursum sensim dilatato et fauce 1.5 mm. lato, lobis triangulari-ovatis erectis vel patulis vix ultra 1 mm. longis acutiusculis; stamina numerosissima 5 mm. longe exserta.—Peru: In forest, Chazuta, Río Huallaga, Dept. San Martín, alt. about 260 meters, March, 1935, *G. Klug* 4011 (type in Herb. Field Mus.).

Pithecolobium martinianum Standl., sp. nov.—Arbuscula 3-metralis; folia magna subsessilia, pinnis 1-jugis 5-foliolatis paullo ultra 1 cm. longe petiolulatis, rhachi 7–8.5 cm. longa gracili glabra,

glandulis solitariis inter paria foliolorum parvis disciformibus nigris, petiolulis crassis nigrescentibus 5 mm. longis; foliola majuscula crasse papyracea subaequalibus, inferioribus paullo minoribus, elliptico-oblonga vel oblanceolato-oblonga 9–15 cm. longa 4–6 cm. lata subabrupte acuminata, basi valde obliqua uno latere obtusa, altero anguste attenuata, glabra, supra sublucida, costa nervisque prominentibus, venis non elevatis, subtus paullo pallidiora brunnescentia, costa gracili elevata, nervis lateralibus utroque latere 3–5 teneris prominentibus arcuatis, venulis prominentibus arcte reticulatis; flores spicati, spicis laxe multifloris prope basin bifidis pedunculatis e nodis defoliatis ut videtur nascentibus 6–14 cm. longis, rhachi recta gracili sparse puberula, bracteis minutis subulatis, floribus arcte sessilibus; calyx tubulosus 2.5 mm. longus sparse puberulus sursum paullo dilatatus, dentibus late ovatis brevissimis acutis vel acuminatis; corolla sparse minutissime puberula striata 10–11 mm. lata, fauce paullo dilatata 2 mm. lata, lobis suberectis oblongis acutiusculis 2 mm. longis; stamina numerosissima ca. 2 cm. longe exserta, inferne in tubum breviter exsertum coalita.—Peru: In forest, Chazuta, Río Huallaga, Dept. San Martín, alt. about 260 meters, flowers lilac-rose, May, 1935, *G. Klug* 4149 (type in Herb. Field Mus.).

Vatairea Lundellii (Standl.) Standl., comb. nov. *Tipuana Lundellii* Standl. Carnegie Inst. Wash. Publ. 461: 65. 1935.—This tree is now known to occur in the forests of British Honduras, the Department of Petén, Guatemala, and the Isthmus of Tehuantepec, Oaxaca, Mexico.

RUTACEAE

Zanthoxylum Aguilarii Standl. & Steyerm., sp. nov.—Frutex vel arbor vulgo 4.5–9 m. alta inermis vel aculeis paucis brevibus rectis armata dense ramosa, ramis teretibus rimosis ochraceis usque fuscis, novellis sparse lepidotis vel fere glabris, internodiis brevibus; folia inter minora pinnata plerumque 5–12 cm. longa petiolata, petiolo supra profunde canaliculato superne marginato sed vix alato; foliola saepius 9–11 sessilia subcoriacea subaequalia vel inferiora sensim decrescentia oblonga usque anguste lanceolato-oblonga vel subelliptica 2.5–5.5 cm. longa 1–1.5 cm. lata, apicem obtusum vel emarginatum versus saepe angustata, rarius subacuta, basi obtusa et saepe valde obliqua, remote grosseque crenata vel saepius subintegra, margine prope basin folioli breviter recurvo, supra viridia glabra, costa impressa, subtus sparse brunneo-punctata, sparse praesertim ad costam nervosque puberula vel pilosula vel fere omnino

glabra; rhachis folii sparse hirtella anguste alata; inflorescentiae axillares vel quoque terminales parvae paniculatae foliis duplo vel triplo breviores dense multiflorae sessiles vel breviter pedunculatae, ramis sparse puberulis crassis, floribus tetrameris plerumque sessilibus et dense aggregatis; sepala minuta rotundo-ovata obtusa, petalis ovalibus obtusis ca. 2 mm. longis glabris ciliolatis; stylus crasse columnaris ovarium subaequans; folliculus 1 globosus basi et apice rotundatus ubique densissime longiuscule echinatus, echinis inclusis usque 1 cm. latus sed saepius aliquanto minor, bivalvis, valvis vulgo 6 mm. longis; semina globosa nigra lucidissima 3.5–4 mm. diam. laevia.—Guatemala: Damp thicket, barranco above Dueñas, Dept. Sacatepéquez, alt. 1,600–1,800 meters, common, January 21, 1939, *Paul C. Standley* 63209 (type in Herb. Field Mus.). Dept. Guatemala, 1938–39, *Ignacio Aguilar* 253, 244. Parramos, Dept. Sacatepéquez, December, 1938, *J. R. Johnston* 1512, 1546.

It is hard to believe that a plant so distinct as this, and apparently not uncommon in the central region of Guatemala that has been visited by most botanical collectors working in the country, should be without a name, but none has been found for it. The fruit is quite unlike that of other Central American or Mexican species. The foliage and inflorescence resemble those of *Z. Culantrillo* HBK., also a Guatemalan species.

The species is named for Don José Ignacio Aguilar G. of the Finca Nacional La Aurora, Guatemala, to whom the authors are indebted for many courtesies. He has presented to Field Museum a large series of plants from the Department of Guatemala, that will be of great service for use in the *Flora of Guatemala* now in preparation.

BURSERACEAE

Bursera Steyermarkii Standl., sp. nov.—Arbuscula, ramis crassis teretibus striatis ferrugineis glabris; folia trifoliolata longipetiolata crasse membranacea ad apices ramulorum brevium lateralium dense inserta, petiolo gracillimo 1.5–4 cm. longo sparse saltem superne patulo-piloso; foliola sessilia fere ad basin crenata supra sat dense pilis brevibus plerumque patulis pilosa, subtus dense pilis longiusculis patentibus velutino-pilosa, foliolo terminali rhombico-obovato usque cuneato-obovato vel oblanceolato-oblongo 4–6.5 cm. longo 2–3.5 cm. lato obtuso usque breviter acuminato, fere a medio usque ad basin sensim cuneato-attenuato, lateralibus paullo brevioribus basi asymmetrica obtusis vel acutis, costa nervisque utrinque prominentibus, venis subtus prominentibus et laxe reticulatis;

inflorescentiae laxissimae pauciflorae saepe folia fere aequantes, pedunculis gracillimis ut videtur pendulis usque 6 cm. longis vel ultra glabris, pedicellis teneris 1 cm. longis vel ultra; fructus glaber obovoideus 10–11 mm. longus et ca. 7 mm. latus basi obtusus apice acutiusculus lucidus.—Guatemala: Dept. Chiquimula, on plains or low slopes about Chiquimula, alt. 400 meters, October 20, 1939, *Julian A. Steyermark* 30068 (type in Herb. Field Mus.).

The genus *Bursera*, so abundantly represented almost throughout Mexico, has but few species in Central America, and these chiefly common and widely distributed ones. The species here described probably is a localized one, for it has not been noted elsewhere during recent rather extensive exploration of Guatemala. The only species that resembles it closely is the lately described *Bursera heteresthes* Bullock, of the Mexican states of Mexico and Guerrero. In foliage the two are almost exactly alike, but the fruit of *B. heteresthes* is strikingly different, being subglobose and only 5–6 mm. in length.

MALPIGHIACEAE

Mascagnia rivularis Morton & Standl., sp. nov.—Liana, ramulis teretibus 2.5 mm. crassis cinereis sericeis, lenticellis crebris ornatis; petioli ca. 12 mm. longi; lamina foliorum anguste oblonga 14.5 cm. longa 3.3–3.8 cm. lata integra, subcoriacea acuminata, basi cuneata, utrinque glaberrima, subtus pallidior, venis primariis ca. 8-jugis, supra obscuris, subtus prominulis, venis secundariis obscuris; inflorescentia axillaris paniculata 6–10 cm. longa ferrugineo-sericea foliis brevior, pedunculo communi 1.5–2 cm. longo, racemis secundariis nonnullis, 5–15-floris, pedunculis floriferis obsoletis (i.e. pedicellis basi articulatis), pedicellis 8–9 mm. longis gracilibus apice incrassatis ferrugineo-sericeis, basi bracteatis, bracteis minutis ovatis persistentibus 0.5–0.75 mm. longis sericeis; calyx eglanduliferus sericeus irregularis, lobis oblongis, plerisque ca. 1.75 mm. longis 0.9 mm. latis planis, lobis 1 vel 2 quam ceteris longioribus, 2.25 mm. longis, apice coloratis recurvatis; petala flava aequalia unguiculata (ca. 1 mm.), lamina oblonga ca. 4 mm. longa 2 mm. lata concava utrinque glabra membranacea, margine integro, eglandulifero; stamina 10 fertilia; filamenta gracillima aequalia ca. 3 mm. longa, vix 0.1 mm. lata, glabra; antherae oblongae ca. 1 mm. longae glabrae; ovarium pilosum; styli 3 aequales gracillimi glabri valde arcuati, stigmatibus terminalibus minutis paullo bilobis; samara (immatura) unica sericea, alis 2 lateralibus subflabellatis, crista dorsali prominente subintegra, alis intermediis nullis.—Type in the

Herbarium of Field Museum, collected along Río Dulce, Guatemala, March 27, 1939, *C. L. Wilson* 375.

This species is apparently an anomalous member of the section *Pleuropterys*. Distinctive are the very slender, basally articulate pedicels, the eglandular, irregular calyx, the glabrous petals, the actinomorphic androecium and gynoecium, the slender filaments, and slender, arcuate styles with minute stigmas.

VOCHYSIACEAE

Vochysia Braceliniae Standl., sp. nov.—Arbor 12-metralis, trunco erecto, coma parva rotundata, ramulis crassiusculis obtuse tetragonis ochraceis fere vel omnino glabris, internodiis elongatis; folia plerumque quaternata fere sessilia coriacea, petiolo crasso vix ultra 7 mm. longo; lamina late ovali-obovata 11–17 cm. longa 9–10 cm. lata, apice late rotundata vel truncata et subito apiculata, acumine obtuso ca. 7 mm. longo, basin versus paullo angustata, basi ipsa obtusa, supra in sicco lutescenti-viridis opaca glabra, costa nervisque plus minusve impressis, subtus fere concolor aliquanto brunnescens, in statu juvenili sparse praesertim ad nervos laxe sericea, aliter obscure minute puberula vel fere omnino glabra, costa crassa solemniter elevata, nervis lateralibus utroque latere ca. 21 fere rectis teneris valde elevatis angulo latiusculo adscendentibus prope marginem in nervum collectivum conjunctis, venulis prominulis arcte reticulatis; flores parvi laete lutei racemosi, racemis usque 16 cm. longis ca. 2 cm. latis paniculam terminalem densam basi foliatam 18–20 cm. longam efformantibus dense multifloris, rhachi sparse puberula vel fere glabra; sepala minora subrotundata, apice rotundata vel obtusissima, ciliata, postico calcarato, calcare obtuso ca. 5 mm. longo 1 mm. crasso vel paullo ultra; petalum anticum oblongum obtusum 1 cm. longum glabrum.—Peru: Dept. Loreto, near Yurimaguas, trail to San Ramón, in cut-over woods, alt. 180 meters, October 25, 1931, *Ynes Mexia* 6081 (type in Herb. Field Mus.).

Local name, Chambo caspi. "Wood soft and useless." Apparently a well marked species, notable for the very broad leaves whose prominent lateral nerves are rib-like, and united near the margin to form a distinct collective nerve. The species is named for Mrs. H. P. Bracelin, whose careful attention to the labeling and distribution of all of Mrs. Mexia's South American and Mexican plants has contributed in no small part toward the scientific value of those large collections.

Vochysia lomatophylla Standl., sp. nov.—Arbor 16–24-metralis, trunco usque 60 cm. diam. vel ultra, ramulis obtuse quadrangulatis crassis ochraceis sparse sericeis glabrescentibus, internodiis brevibus; folia quaternata magna fere sessilia coriacea, petiolo crasso ad 8 mm. longo sparse sericeo vel glabrato; lamina anguste oblanceolato-oblonga 17–27 cm. longa, 5–7 cm. prope apicem lata, apice rotundata vel late obtusa et saepe breviter angusteque emarginata, fere ab apice basin versus sensim angustata, basi ipsa angusta obtusa ad subtruncata, supra in sicco lutescens in statu adulto glabra sublucida, costa nervisque impressis, subtus concolor, primo ut videtur saltem secus nervos sericea, in statu adulto fere omnino glabra, costa gracili solemniter elevata, nervis lateralibus utroque latere ca. 25 gracilibus elevatis fere rectis angulo semirecto vel paullo latiore adscendentibus prope marginem in nervum conspicuum collectivum conjunctis, venulis prominentibus arcte reticulatis; racemi in axillis ut videtur solitarii 11–23 cm. longi sat dense multiflori ca. 3.5 cm. lati 4.5–12 cm. longe pedunculati, rhachi crassa laxe aliquanto sericea, floribus plerumque in cymulas parvas paucifloras breviter pedunculatas dispositis, pedicellis cito glabratis usque 9 mm. longis; sepala minora ca. 2–2.5 mm. longa subrotundata, apice rotundata, ciliata, calcare angusto 8–9 mm. longo obtuso paullo ultra 1 mm. lato; petalum anticum late oblongum 11 mm. longum 6 mm. latum apice subrotundatum glabrum; stylus ca. 12 mm. longus fere filiformis glaber.—Peru: On river bank, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, January 13, 1935, *José M. Schunke* 14 (type in Herb. Field Mus.). Argelia, Dept. Loreto, January, 1911, *W. Fox* 76.

Local name Timareo de altura. Flowers yellow. In most respects, especially in nervation of the leaves, this is similar to *V. Braceliniae*, but the shape and proportions of the leaves are so different that it seems probable that two distinct species are represented.

EUPHORBIACEAE

Alchornea triplinervia (Spreng.) Muell. Arg. in DC. Prodr. 15, pt. 2: 909. 1866. *Antidesma triplinervium* Spreng. Neue Entd. 2: 116. 1821.—In South America the species is common in many parts of its wide range, from southern Brazil to Colombia. So far as I know, it has not been recorded for North America, but the following collection is referable to it: Panama: Rain forest, crest of Cana–Cuasi trail, Chepigana District, Prov. Darién, alt. 1,650 meters, March, 1940, *M. E. & R. A. Terry* 1575. A shrub of 2.5–3.5 meters. Pax in his monographic account of the genus (Pflanzen-

reich IV. 147, vii: 227. 1914) recognizes eight varieties of *A. triplinervia*. In his key the Panama collection would run to var. *parvifolia* (Miq.) Muell. Arg., which he reports only from Brazil.

Croton Standleyi Steyermark, sp. nov.—Frutex, ramulis cinereo-stellato-pubescentibus; foliis longe petiolatis, petiolis 4–8 cm. longis, cinereo-stellato-pubescentibus, laminis late ovatis subhastatis vel folia *Gossypii* simulantibus, apice acutis vel breviter acuminatis, basi profunde cordatis, nervis lateralibus 6–7-jugis, pagina superiore parce leviterque stellato-pubescente, pagina inferiore pallidiore, dense cinereo-stellato-pubescente, margine integro vel subintegro; inflorescentia terminali, abbreviata, 5–6.5 cm. longa; calyce florum masculorum dense flavido-stellato-pubescente; capsula 7 mm. longa, 7 mm. lata, modice dense breviterque cinereo-stellato-pubescente; semine fusco, calvo, 5–5.6 mm. longo.—Panama: Chiriquí, Boquete District, Volcán de Chiriquí, alt. 2,100 meters, *M. E. Davidson* 892 (type in Herb. Field Mus.).

This new species of *Croton* is named in honor of Mr. Paul C. Standley, who first brought the material to the author's attention. Its slightly hastate-lobed or somewhat *Gossypium*-like leaves simulate superficially those of *C. gossypifolius* Vahl, which has ferruginous-tomentose capsules and very long-acuminate leaves with denticulate margins. The gray, cinereous, stellate pubescence developed to a slight degree on the capsules and more markedly on the lower leaf surface, together with the entire or subentire leaf margins, subhastate-lobed, acute, deeply cordate leaves, and short inflorescence distinguish *C. Standleyi* from its nearest allied species, *C. panamensis* M. Arg. and *C. Billbergianus* M. Arg.

Euphorbia pulcherrima Willd. f. **lutea** Standl., forma nov.—Bracteae inflorescentiae pallide luteae; caetera ut in forma typica speciei.—Salvador: Finca Venecia, near Soyapango, December 21, 1938, *Dr. Mario Levy Van Severén* 67 (received through Dr. Salvador Calderón; type in Herb. Field Mus.).

"Pascua amarilla." The form of the cultivated poinsettia having pale yellow bracts is not common in cultivation nor is it very rare. It has been known for a long time, but I do not find that there is any proper Latin name to designate it. The form is mentioned by Boissier in his account of *Euphorbia* in DeCandolle's *Prodromus* (15, pt. 2: 72. 1862) as "*E. lutea* Alaman in DC. h.," but that name is mentioned merely in synonymy.

Jatropha Standleyi Steyermark, sp. nov.—Frutex, ramulis glabris; foliis oblongo-obovatis, petiolatis, integris, omnino glabris, basi cuneatis acutis, apice late rotundatis vel truncatis, abrupte et obtuse mucronatis, nervis lateralibus 6–7-jugis, chartaceis, 4–10.5 cm. longis, 2.5–5.5 cm. latis, margine paullo incrassato, basi laminae glandulis stipitatis onusta, petiolo 0.8–1.1 cm. longo, scarioso-alato; floribus non visis; capsula rhomboidea vel subquadrata, 2-loculari, carinata, 2.5 cm. lata, 1.6 cm. alta; calyce persistente.—Mexico: Tehuantepec, Oaxaca, July, 1936, *E. Matuda* 2260 (type in Herb. Field Mus.).

Jatropha Standleyi, with its large, simple, glabrous, entire, oblong-obovate leaves, cuneate at the base, is one of the most distinct species of the genus. Without flowering material it is impossible to judge in which section the species most properly belongs, but superficially it appears related to *Jatropha yucatanensis* Briq. of section *Castiglionia* on the one hand and *Jatropha Isabelli* Muell. Arg. of sect. *Tuberosae* subsect. *Macrorrhizae* on the other.

Omphalea elaeophoroides Steyermark, sp. nov.—Scandens, ramulis juvenilibus fulvo-tomentellis; foliis magnis, orbiculari-ovatis, basi late rotundatis, apice rotundatis vel abrupte breviterque apiculatis, firmiter membranaceis, margine crenis longis adpressis crenato, pagina superiore glabra, pagina inferiore dense pilis brevibus puberula, 9–15 cm. longis, 6–11 cm. latis, nervis 6–10 arcuato-adscendentibus nervos 2 laterales e basi includentibus, nervis subtus prominentibus et conspicue reticulatis; stipulis parvis, non foliaceis; petiolo 2–5 cm. longo, tomentello, apice biglandulari, glandulis suborbicularibus 1.5 mm. diametro; floribus non visis; fructu crasso, subcarnoso, textura crasso, indehiscente, apice rostrato, tricarinato, 8 cm. longo, diametro 7–8 cm., tricocco; seminibus non visis.—Brazil: Amazonas, "Piraninhon," on restinga alta, Municipality Humayta, near Tres Casas, basin of Rio Madeira, September 14–October 11, 1934, *B. A. Krukoff* 6297 (type in Herb. N. Y. Bot. Gard.; fragment in Herb. Field Mus.).

A member of the section *Palmatinerviae*, this new species appears related to the membranaceous-leaved *O. oleifera*. The latter, however, is a tree with deeply cordate leaves, while *O. elaeophoroides* is a scandent plant with leaves rounded or truncate at the base. It is related also to *O. diandra* (sensu lato), from which it differs in its thinly membranaceous leaves, which are more rounded at the apex.

This species is named in allusion to *Elaeophora abutaefolia*, whose fruit the fruit of this plant resembles superficially. The fruit of

Elaeophora is 4- instead of 3-angled, has more prominent and definite ribs, and is finer-textured on the outer surface.

Phyllanthus longipes Steyermark, sp. nov.—Arbor, trunco 1.2 dm. diametro; ramis gracilibus glabris, internodiis brevibus vel elongatis; foliis breviter petiolatis chartaceis vel paullo subcoriaceis, petiolo 2.5–4 mm. longo, ruguloso; lamina elliptico-oblonga, 4–8 cm. longa, 1–3.5 cm. lata, acuminata, acumine obtuso, basi acuta, glabra, supra viridi, nervis inconspicuis, subtus pallida subglaucescente, nervis lateralibus utroque latere ca. 8; floribus ut videtur dioicis, femineis tantum visis, axillaribus, fasciculatis, pedicellis filiformibus glabris 4.5–5 cm. longis plus minusque erectis (in fructu); capsula triloculari castanea glabra laevi 5 mm. longa et 5 mm. lata, profunde emarginata, coccis dorso sulcatis; semine castaneo glabro laevi ca. 4 mm. longo et 3.5 mm. lato.—British Honduras: On hillside, El Cayo District, Vaca, May 13, 1938, *Percy H. Gentle* 2619 (type in Herb. Field Mus.; duplicate in Herb. Univ. Mich.).

This species is well characterized by its deeply emarginate capsule, each cell of which is definitely sulcate longitudinally, by the chartaceous-subcoriaceous leaves, subglaucescent on their lower surface, and by the elongate fruiting pedicels.

CELASTRACEAE

Maytenus vulcanicola Standl., sp. nov.—Arbuscula 3–4.5 m. alta omnino glabra, ramulis crassis teretibus ferrugineis rimosis, internodiis brevibus; folia alterna breviter petiolata coriacea rigidaque, petiolo crasso glaucescente 4–5 mm. longo; lamina anguste elliptico-oblonga vel anguste oblanceolato-oblonga 6–8 cm. longa 2–3 cm. lata acuta usque subrotundata, basi longiuscule cuneato-angustata, supra in sicco luteo-viridis lucida, costa tenera prominula, nervis manifestis sed vix elevatis, venulis obscuris, subtus paullo pallidior, costa gracili prominente, nervis lateralibus utroque latere ca. 7 tenerrimis irregularibus obliquis angulo semirecto adscendentibus prope marginem irregulariter conjunctis, venulis obscuris laxe reticulatis, arcte adpresso-serrata; inflorescentiae axillares e basi ramosae vix in statu fructifero ultra 1.5 cm. longae pauciflorae, floribus breviter crasseque pedicellatis; calyx sub fructu persistens 3.5 mm. latus patens profunde lobatus, lobis late ovatis apice rotundatis et apiculatis; capsula ca. 8 mm. longa viridis rugulosa, post dehiscentiam in valvulas 4 apice rotundatas soluta; semina ovalia brunnea.—Panama: Near summit of Volcán de Chiriquí, Boquete District, Prov. Chiriquí, alt. 3,360 meters, February 12, 1940, *M. E. Terry* 1309 (type in Herb. Field Mus.).

Probably this is an addition to the rather small number of species known to be localized about the summit of the Volcano of Chiriquí. Like most species of the genus, it has no outstanding characters, but it does not agree closely enough with any of the named species with which it has been compared.

ICACINACEAE

Oecopetalum Greenmanii Standl. & Steyerm., sp. nov.—Arbor, ramulis ut videtur viridibus teretibus ad nodos aliquanto incrassatis glabris; folia majuscula breviter petiolata subcoriacea, petiolo crasso 0.8–1.5 cm. longo canaliculato glabro vel primo sparse sericeo; lamina oblonga, elliptico-oblonga vel interdum lanceolato-oblonga 14–20 cm. longa 3.5–8 cm. lata acuta vel subacuminata, basi obtusa et subito breviterque contracta, supra in sicco sublucida glabra, costa nervisque prominulis, venis manifestis et laxe reticulatis, subtus in sicco fere concolor saltem in statu adulto glabra, costa gracili elevata, nervis lateralibus utroque latere 8–10 prominentibus tenerrimis angulo lato abeuntibus prope marginem arcuato-junctis, venis inconspicuis prominulis laxe reticulatis; inflorescentia terminalis vel saepius axillaris cymosa dichotoma et repetite ramosa densiuscule multiflora breviter vel longe crasseque pedunculata usque 5 cm. longa atque 6 cm. lata, in statu fructifero usque 9 cm. longa, pedunculo ramisque sparse vel dense sericeis, floribus sessilibus dense aggregatis albis, bracteis omnibus minutis pallidis subulatis vel lanceolatis; calyx in anthesi 1.5–2 mm. longus, lobis erectis ovatis acutis minute sericeis 0.7–1 mm. longis, in statu fructifero persistentibus, lobis late lanceolatis 5.5–6.5 mm. longis inferne 3 mm. latis; corolla in alabastro obtusissima, petalis 5 liguliformibus 5–5.5 mm. longis 1.5–1.6 mm. latis apice rotundatis, extus minute sericeis, intus longitrorsum carinatis et ad carinam pilosulis, marginibus incurvis; antherae anguste oblongae 4 mm. longae 1 mm. latae erectae, filamentis 1.2 mm. longis 0.5 mm. latis; ovarium superum conicum 1-loculare 1 mm. longum 0.75 mm. latum; ovulum 1 ex apice loculi pendulum, stylo 3.5 mm. longo glabro, stigmate non dilatato obtuso; fructus capsularis indehiscens 1-locularis monospermus, pericarpio brunnescente ruguloso, ambitu depresso-ovoideo-globosus et aliquanto obliquus bicarinatus et secus carinam subcompressus glaber, apice late rotundatus et breviter rostratus, rostro 1.5 mm. longo.—Guatemala: Dept. Izabal, Río Dulce, 2–4 miles west of Livingston, on south side (left-hand side going up the river), at sea level, April 16, 1940, *Julian A. Steyermark* 39516 (type in Herb. Field Mus.).

The genus *Oecopetalum* Greenm. & Thompson was published and illustrated in 1914 (Ann. Mo. Bot. Gard. 1: 408. *pl. 25*), being based upon *Purpus* 6159, from the Sierra Madre near Miscantla, Veracruz, Mexico. Until the present time a single species has been known, and the fruit never has been described. The original species, *O. mexicanum* Greenm. & Thompson, has been collected also in western Guatemala: Dept. Quezaltenango, Volcán de Zunil, in virgin forest, alt. 1,740 meters, August, 1934, *Skutch* 954; a tree of 12 meters, the trunk 30 cm. in diameter; flowers white. Dept. Suchitepéquez, in forest, Finca Moca, alt. 1,140 meters, January, 1935, *Skutch* 2080; a tree of 18 meters, the trunk 30 cm. in diameter, slender, smooth, brown; flowers white, fragrant.

The most recent collection of the genus comes from a region floristically distinct from those in which *O. mexicanum* has been collected, and would be expected to represent a different species. Careful study shows that such is the case. *O. Greenmanii* differs from *O. mexicanum* in the following respects: petals sericeous rather than glabrous outside, only 5–5.5 mm. long (6.5–7.5 mm. in *O. mexicanum*); shorter filaments, 1.2 mm. rather than 2 mm. in length; leaves with 8–10 rather than 4–6 pairs of lateral nerves. The flowers of *O. Greenmanii* are decidedly smaller; the leaves average smaller, and are almost concolorous, those of *O. mexicanum* being much paler beneath in the dry state. It may be stated, however, that fresh leaves of *O. Greenmanii* are paler on the under surface, although this does not show in dried specimens.

The species is named quite appropriately for Dr. J. M. Greenman, one of the co-authors of the genus *Oecopetalum*.

SAPINDACEAE

Paullinia Mexiae Steyermark, sp. nov.—Planta volubilis, ramulis teretiusculis, striatis; foliis pinnatis, 5-foliolatis, petiolo gracili 2.5–4 cm. longo glabro exalato, rhachi 2–2.5 cm. longa glabra exalata; foliolis membranaceis, utrinque viridibus, 8–10 cm. longis, 2.5–4 cm. latis, glabris, remote et grosse dentatis, crenaturis utroque latere 3 vel 4, lanceolatis, oblongo-lanceolatis vel elliptico-lanceolatis, obtusis, nervis adscendentibus, 7–8-jugis, foliolis superioribus 3 sessilibus, foliolis inferioribus 2 ad 3 mm. longe petiolulatis, foliolo terminali basi cuneato vel attenuato-decurrente, foliolis ceteris basi plerumque rotundatis vel obtusis; inflorescentiis racemoso-thyrsoideis, 6.5–9 cm. longis, bracteis et bracteolis minimis; pedicellis 2–4 mm. longis, minute puberulis, valde inaequalibus; floribus albis;

sepalis glabris vel interioribus minute sericeis, pallido-viridibus, 3.5–4 mm. longis, obtusis; petalis albis, 4 mm. longis, oblongis, obtusis; fructus non visus.—Mexico: Temisco, Barranco de la Guacamaya, Sierra Madre del Sur, north of Río Balsas, Distrito Adama, Guerrero, November 19, 1937, *Ynes Mexia* 8855 (type in Herb. Field Mus.).

This species of *Paullinia* is related to *P. costata* Schl. & Cham., from which it is distinguished chiefly by its toothed leaflets.

RHAMNACEAE

Crumenaria Steyermarkii Standl., sp. nov.—Herba annua debilis ramosa erecta vel adscendens usque 30 cm. alta, ramis gracillimis subangulatis sparse pilis brevibus subadpressis hispidulis, internodiis plerumque foliis longioribus; stipulae lineares sparse ciliatae petiolo aequilongae; folia parva alterna breviter petiolata herbacea, petiolo gracili 2–4 mm. longo sparse incurvo-pilosulo vel fere glabro; lamina ovata vel oblongo-ovata 10–15 mm. longa 5–10 mm. lata acuminata usque obtusa, basi rotundata, integra vel basin versus obscure adpresso-crenata, supra glabra, subtus sparse ad costam nervosque adpresso-hispidula, e basi 5-nervia, costa utroque latere supra medium nervos 3 emittente; pedunculi axillares filiformes 1–2-flori foliis longiores glabri, floribus ad apicem sessilibus vel brevissime pedicellatis albis; calyx petaloideus 1.75–2.5 mm. longus, tubo turbinato-campanulato olivaceo 1–1.5 mm. longo, lobis 5 petaloideis albis ovatis subito acuminatis 0.8–1.2 mm. longis 0.7–0.8 mm. latis membranaceis; petala 5 minuta in sinubus inter calycis lobos inserta albida erecta tenuiter membranacea ovato-elliptica 0.6–0.7 mm. longa, marginibus incurvis; stamina petalis opposita 5 longitudine petala aequantia, filamentis filiformibus albis 0.3–0.4 mm. longis, in sinubus inter calycis lobos inserta, antheris 0.2 mm. longis fulvis versatilibus late oblongis; ovarium viridescens 3-loculare, ovulo in quoque loculo 1 loculum omnino implente; stylus brevis, stigmatibus 3; ovarii basis basi tubi calycini paullo adnata; fructus obovoideus trilobus ca. 5 mm. longus et 4 mm. latus apice lato breviter emarginatus, basi angustatus et brevissime emarginatus, pilis brevibus albidis crassis et fere verruculiformibus sat dense conspersus.—Guatemala: In shade of trees in wooded section of llanos, Dept. Jutiapa, along railroad between Agua Blanca and Amatillo, alt. 950–990 meters, October 24, 1939, *Julian A. Steyermark* 30448 (type in Herb. Field Mus.). Dept. Chiquimula, grassy slope of Mount Tojás, near village of Sasmo, alt. 420–520 meters, October, 1939, *Steyermark* 30217.

If one were asked to guess what genus of South American plants previously unreported from North America were to be found next in Central America, few would be less likely to be mentioned than *Crumenaria*. The plant here described, however, is clearly a member of this small genus, as was determined by Dr. Steyermark after careful dissection and study of the flowers. Of *Crumenaria* there have been known heretofore half a dozen species, ranging from Minas Geraes, Brazil, southward into Paraguay and Argentina. Most of them are suffrutescent, leafless plants, somewhat suggestive in habit of *Ephedra*, but others are wholly herbaceous and have well developed leaves. Of the Brazilian species the one most similar in general appearance to *C. Steyermarkii* is *C. Glaziovii* Urban, a densely branched perennial with somewhat woody base.

TILIACEAE

Mortoniodendron guatemalense Standl. & Steyerm., sp. nov. —Arbor gracilis parva, ramulis gracilentibus, teretibus, fere glabris vel terminalibus juvenilibus parce stellato-pubescentibus, internodiis 1–2 cm. longis; foliis distichis; petiolis 5–10 mm. longis, minute et parce stellato-pubescentibus; limbo oblongo-elliptico vel oblongo-lanceolato, 8–15 cm. longo, 2–5 cm. lato, abrupte longe acuminato, acumine subacuto, basi paullo inaequali, subacuto vel obtuso, integro, membranaceo, utrinque viridi, concolore, supra praeter costam mediam parce stellato-pubescentem glabro, subtus pagina plerumque glabro, nervis et costa media glabris vel parce stellato-pubescentibus, basi trinervio, nervis lateralibus 6–7-jugis adscendentibus; floribus paucis, cymosis, cymis 4.5–7 cm. longis, ramulis ochroleucis minute et dense pilis adpressis stellato-pubescentibus, pedicellis 4–12 mm. longis; sepalis 5, ovatis, 8–10 mm. longis, 4 mm. latis, acutis, crassis, ochroleucis, extus dense stellato-pubescentibus, intus glabris; petalis 5, sepalis paullo brevioribus, ovatis vel ovato-lanceolatis, acutis vel acuminatis, glabris, 5–8 mm. longis, 3–3.5 mm. latis; staminibus numerosis, congestis, glabris, inaequalibus, fasciculatis, exterioribus brevissimis, petalis oppositis; ovario dense stellato-pubescente, superne angustato; stylo 4 mm. longo; fructus non visus.—Guatemala: Limestone soil, bank of Río Dulce, July 21, 1936, *W. R. Hatch & C. L. Wilson* 54 (type in Herb. Field Mus.). Damp ravine, Finca Alsacia, Los Amates, alt. 360 meters, July 17, 1936, *Hatch & Wilson* 43.

Mortoniodendron guatemalense is distinguished by its combination of thinly membranaceous, mostly glabrous leaves and appressed, minute, stellate pubescence of pedicels, petioles, sepals,

and young branches. As in *M. membranaceum*, the leaves are thin, but the two differ in the amount and kind of pubescence, that in *M. membranaceum* consisting of conspicuous, loose, spreading, relatively long, stellate hairs, especially on young branches, petioles, pedicels, and sepals, while that of *M. guatemalense* is shorter and more appressed. Also, in *M. membranaceum* there are many conspicuous, small, hairy tufts or fascicles of stellate hairs on the lower surface of the leaves, especially along the midrib and lateral nerves, whereas in *M. guatemalense* the lower surface is practically smooth.

Mortoniodendron guatemalense differs from *M. anisophyllum* chiefly in its membranaceous instead of subcoriaceous leaves, which are of a narrowly elliptic- or oblong-lanceolate instead of ovate shape.

Mortoniodendron membranaceum Standl. & Steyerm., sp. nov.—Arbor gracilis 4.5 m. alta; ramulis gracilentibus, teretibus, ochraceis vel fulvis vel terminalibus juvenilibus viridibus, laxe stellato-pubescentibus, pilis albo-luteis patentibus, internodiis 0.8–5 cm. longis; foliis distichis, petiolis 3–5 mm. longis teretibus, dense stellato-pubescentibus, pilis patentibus; limbo elliptico-oblongo, oblongo vel oblongo-lanceolato, 4–11.5 cm. longo, 2–4 cm. lato, plerumque abrupte longiacuminato, acumine obtusiusculo, basi valde inaequali obtuso vel subrotundato, integro, membranaceo, utrinque viridi, concolore, supra praeter nervos parce pubescentes glabro, subtus praeter nervos et axillas nervorum sparse stellato-pubescentes glabro, basi trinervio, nervis lateralibus 5–7 divaricato-adscendentibus; floribus paucis, cymosis, cymis 2–4 cm. longis, ramulis dense stellato-pubescentibus, pilis luteis patentibus, pedicellis crassis 5–8 mm. longis; sepalis 5, late lanceolatis, 8–9 mm. longis, 4–5 mm. latis, acutis, valde crassis gummosisque, lacteo-luteis, extus dense stellato-pubescentibus, intus glabris; petalis 5, sepalis paullo brevioribus, lanceolatis, acutis, glabris, 5–6 mm. longis, 2.5 mm. latis; staminibus numerosis, congestis, glabris, inaequalibus, fasciculatis, exterioribus brevissimis, interioribus longissimis, petalis oppositis; ovario dense stellato-pubescente, superne angustato; stylo 2–2.5 mm. longo, glabro, simplici, antheras paullo excedente; stigmate simplici subcapitellato; fructus non visus.—Honduras: Dept. Atlántida, a tree about 4.5 meters tall, in moist ravine, mountain slope near Puente Alto stop on S. F. Co. R. R., east of La Ceiba, alt. 240 meters, July 19, 1938, *T. G. Yuncker, J. M. Koepper & K. A. Wagner* 8519 (type in Herb. Field Mus.). In open forest on mountain slope back of Roma switch of the S. F. Co. R. R., about 15

miles east of La Ceiba, alt. 300 meters, July 21, 1938, *Yuncker, Koepper & Wagner* 8579. Bank of Danto River, slopes of Mt. Cangrejal, alt. 240 meters, July 16, 1938, *Yuncker, Koepper & Wagner* 8479.

The discovery of a second species of *Mortoniodendron* in July, 1938, followed within a few months the original publication of the genus. This second species, *M. membranaceum*, agrees in all fundamental generic characters with *Mortoniodendron*, and at the same time exhibits numerous specific deviations from *M. anisophyllum*. The branches, petioles, and pedicels of *M. membranaceum* are densely stellate-pubescent, its leaves are thinly membranaceous instead of subcoriaceous, and the lower surface is provided along the midrib and lateral nerves with numerous tiny hairy tufts. Further, the petioles and leaves in *M. membranaceum* are much shorter, and the hairs on the outside of the sepals are much longer and more conspicuous than in *M. anisophyllum*.

THEACEAE

Eurya panamensis Standl. in Woodson & Seibert, Ann. Mo. Bot. Gard. 25: 829. 1938.—The type is *Gene & Peggy White* 16 from the valley of the upper Río Chiriquí Viejo, Province of Chiriquí, Panama. Two more recent collections are now at hand: Panama: Vicinity of Casita Alta, Volcán de Chiriquí, alt. 1,500–2,000 meters, *Woodson, Allen & Seibert* 791; a tree of 8 meters, the flowers yellow. Volcán de Chiriquí, alt. 2,700 meters, *M. E. Terry* 1350; a tree of 4.5–6 meters.

GUTTIFERAE

Clusia dichrophylla Standl., sp. nov.—Arbuscula 3–4.5 m. alta omnino glabra, ramulis gracilibus teretibus ochraceis vel brunnescentibus fere laevibus, internodiis brevibus; folia inter minora petiolata in sicco membranacea, petiolo gracili 1–2 cm. longo anguste canaliculato; lamina elliptica vel elliptico-ovata 8–13.5 cm. longa 4–6 cm. lata subito acuminata vel longiacuminata, basi acuta usque subrotundata, supra in sicco lucida olivacea, costa tenera elevata, nervis lateralibus tenerrimis prominulis, subtus pallidior, costa tenera prominente, nervis lateralibus utroque latere ca. 30 vel ultra tenerrimis prominulis fere rectis approximatis aliquanto irregularibus juxta marginem in nervum irregularem collectivum junctis; inflorescentia terminalis parva brevissime crasseque pedunculata ut videtur triflora, floribus breviter crasse pedicellatis vel fere sessilibus; bracteae parvae late rotundatae vix ultra 3 mm. longae; sepala inaequalia orbicularia, interioribus in alabastro 6–7 mm. longis vel

ultra, exterioribus minoribus.—Panama: Rain forest, crest of Cana–Cuasi trail, Chepigana District, Prov. Darién, alt. 1,500 meters, March 15, 1940, *M.E. & R. A. Terry* 1565 (type in Herb. Field Mus.).

There seems to be no end to the species of *Clusia* growing in Central America, the foliage showing great variation in almost every direction, so that often it is difficult to determine where specific limits should be drawn. There is great probability that ampler material will necessitate the reduction of some species described from the region, but there is equal probability that further species will be found for description. The species here described appears to be a valid one, isolated by the somewhat distinctive form of the unusually thin leaves, which are distinctly paler beneath, and have very numerous, fine, closely parallel nerves.

Hypericum Steyermarkii Standl., sp. nov.—Arbor 6–9-metralis omnino glabra, ramis teretibus brunneis vel brunnescentibus subnodulosis, internodiis ca. 1 cm. longis; folia majuscula sessilia membranacea dense pellucido-punctata oblongo-ovata usque lanceolato-oblonga 3–6.5 cm. longa 1–2.2 cm. lata, superiora quam aliis paullo latiora, acuta et apiculata, basi obtuso-cuneata et ima basi breviter auriculata, supra viridia sublucida, nervis prominulis, subtus pallidiora sparse nigro-punctata, costa tenera prominente, nervis venisque obscuris laxe reticulatis; flores pauci magni terminales fasciculati vulgo 3 vel 4, pedicellis 1–2 cm. longis crassiusculis interdum curvis; sepala ovali-ovata 5–6 mm. longa acuta viridia secus marginem et ad apicem glandulis parvis nigris notata; petala intense lutea persistentia et firma ca. 2 cm. longa multilineata post anthesin erecta obovata apice rotundata prope apicem paucipunctata; stamina numerosa basi breviter connata, in phalanges 5 aggregata, petalis fere duplo breviora, antheris vix 0.6 mm. longis; styli 5 distincta; capsula ovoidea 14 mm. longa basi 1 cm. lata subobtusa 5-locularis; semina numerosa oblonga 2–2.5 mm. longa pallide brunnea utrinque abrupte contracta minute reticulata.—Guatemala: Dept. Quezaltenango, Volcán de Santo Tomás, alt. 2,500–3,700 meters, January 22, 1940, *Julian A. Steyermark* 34760 (type in Herb. Field Mus.).

During the past few years many well marked new species have been discovered in Central America, but none more striking than this, or less expected. *Hypericum Steyermarkii* has no close allies in either Mexico or Central America.

Tovomita membranifolia Standl., sp. nov.—Frutex 2–3-metralis, ut videtur dense ramosus glaber, ramis gracillimis teretibus

viridescentibus laevibus, internodiis elongatis; folia parva prope apices ramorum aggregata et interdum subverticillata breviter petiolata tenuiter membranacea, petiolo gracili ca. 7 mm. longo; lamina lanceolato-oblonga vel anguste elliptico-oblonga 6–9.5 cm. longa 2–3.5 cm. lata acuminata, apice ipso obtuso, basi acuta, supra in sicco opaca olivacea, costa tenerrima prominente, nervis venisque obscuris, subtus multo pallidior sublucida, costa tenera prominente, nervis lateralibus utroque latere ca. 12 irregularibus tenerrimis angulo latiusculo abeuntibus leviter arcuatis juxta marginem junctis obscuris, venis vix prominulis laxe reticulatis; fructus (unus apertus tantum visus) ca. 1 cm. longe pedicellatus, valvis 4 elliptico-oblongis 2 cm. longis 9 mm. latis apiculatis intus nervosis.—Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 10, 1940, *M. E. & R. A. Terry* 1478 (type in Herb. Field Mus.).

Only two other species of *Tovomita* are recorded for Central America. The plant here described is not similar to either of them, but habitally it bears some resemblance to certain South American ones, although not agreeing wholly with any of them.

MELASTOMACEAE

Conostegia sororia Standl., sp. nov.—Frutex 3–4.5 m. altus, ramulis teretibus longitrorsum striatis, novellis dense furfuraceo-stellatis atque sparse hispidis, internodiis superioribus brevibus vel elongatis; folia modica petiolata crasse membranacea, petiolo crassiusculo 1.3–2.8 cm. longo dense tuberculato-stellato-tomentello et saltem supra breviter hispido; lamina late obovata usque oblongo-obovata 9.5–18.5 cm. longa 5.5–8 cm. lata, apice acuta vel obtusa et longe caudata, acumine lineari 1.5–2 cm. longo, basin versus paullo arcuato-cuneata, basi ipsa obtusa, supra in sicco viridis glabra, costa subimpressa, nervis planis, subtus pallidior, ad nervos venasque sparse minute stellato-puberula et ad costam hinc inde hirsuta, 5-nervia, nervis extimis tenerrimis, margine integro vel obscure undulato-denticulato; inflorescentia terminalis parva crasse 5 cm. longe pedunculata ca. 4 cm. longa et 3 cm. lata thyrsiformi-paniculata dense subpauciflora, ramis brevibus dense stellato-tomentellis, pedicellis vix ultra 3 mm. longis interdum nullis crassiusculis; fructus ut videtur fere maturus hemisphaerico-globosus 5–6 mm. diam. minute adpresse stellato-puberulus, basi persistente calycis 5 mm. lata vix ad 2 mm. alta.—Panama: Cana–Cuasi trail, Camp 1, Chepigana District, Prov. Darién, alt. 240 meters, March 7, 1940, *M. E. & R. A. Terry* 1414 (type in Herb. Field Mus.).

The nearest relative of *Conostegia sororia* is *C. puberula* Cogn., of Panama and Costa Rica. In that the leaves are 5-plinerved and the calyx tube is consistently constricted or narrowed at the base, rather than broadly rounded, as in the plant here described. There are also appreciable differences in the pubescence of the two species.

Topobea pluvialis Standl., sp. nov.—Frutex 2.5–3.5 m. altus fere glaber, ramis teretibus ochraceis saepe inter nodos fistuloso-incrassatis et duplo crassioribus, novellis in sicco fuscis sparse minuteque puberulis; folia subaequalia modica breviter petiolata crasse membranacea, petiolo gracili 1.3–2 cm. longo primo minute furfuraceo-puberula cito glabrato; lamina anguste elliptico-oblonga usque ovali-elliptica vulgo 10–17 cm. longa et 5–8 cm. lata, apice acuta ad subrotundata et caudata vel caudato-acuminata, acumine angusto usque 1.5 cm. longo, basi acuta vel obtusa, integra, supra in sicco fusca sublucida, primo ut videtur sparse et minutissime furfuraceo-puberula, cito glabra, nervis venisque subimpressis, subtus paullo pallidior brunnescens, primo minute ad nervos puberula, in statu adulto glabra, 5-plinervia, nervis teneris prominentibus, venis numerosissimis creberrimis tenerrimis subimpressis; flores in axillis foliorum fasciculati pauci, pedicellis 10–17 mm. longis minute puberulis vel fere glabris; bracteae basi breviter coalitae ovatae vel late ovatae ca. 7 mm. longae calyce fere duplo breviores acuminatae minute puberulae vel glabrae; calycis tubus semiglobosus 4–5 mm. longus basi late rotundatus glaber, limbo late campanulato ca. 4 mm. alto et 8 mm. lato glabro truncato, dentibus minutis remotis; petala alba elliptica ca. 1 cm. longa glabra.—Panama: Rain forest, crest of Cana–Cuasi trail, Chepigana District, Prov. Darién, alt. 1,200 meters, March 15, 1940, *M. E. & R. A. Terry* 1560 (type in Herb. Field Mus.). Same region, alt. 1,650 meters, March 15, 1940, *M. E. & R. A. Terry* 1557.

The relationship is clearly with *Topobea inflata* Triana, whose type was collected between Barbacoas and Tuquerres, Colombia. Both agree in having elongate, fusiform swellings of the branches between the nodes, presumably shelters for ants, but these swellings are much more developed in the Colombian species. *T. inflata* has 3-nerved leaves, while those of *T. pluvialis* are 5-plinerved.

Topobea urophylla Standl., sp. nov.—Frutex ut dicitur aut scandens et epiphyticus vel terrestris et 2.5–3.5 m. altus, ramis teretibus aliquanto nodosis brunnescentibus elevato-lenticellatis, primo dense minuteque stellato-furfuraceo-tomentellis, glabrescentibus, ad nodos saepe breviter setosis, internodiis brevibus vel

elongatis; folia subaequalia modica vel magna petiolata rigide membranacea vel fere subcoriacea, lamina elliptica, ovato-elliptica vel latissime elliptica plerumque 10–17 cm. longa et 5–9.5 cm. lata, apice acuta usque rotundata et subito caudato-acuminata, acumine angusto 1–1.5 cm. longo, basi subacuta usque rotundata, supra in sicco fusca glabra, nervis venisque planis, subtus vix pallidiore brunnescente ad nervos furfuraceo-stellato-puberula, aliter fere glabra, 5-nervia, nervis teneris prominentibus; flores numerosi vel pauci in axillis foliorum fasciculati, pedicellis crassis 4–8 mm. longis dense stellato-furfuraceis; bracteae latae basi breviter connatae ca. 7 mm. longae et calyce duplo breviores extus sparse minute stellato-puberulae vel glabratae, apice rotundato breviter recurvo; calycis tubus subglobosus 6–8 mm. longus minute stellato-furfuraceus, limbo late campanulato ca. 7 mm. long. et 10 mm. lato extus dense stellato-furfuraceo fere ad medium 6-lobato, lobis approximatis obtusis suberectis; petala pallide rosea extus stellato-tomentosa ca. 1 cm. longa intus glabra apice obtusissima; antherae oblongae ca. 3 mm. longae glabrae; ovarium fere ad basin liberum glabrum.—Panama: Río Balsa, above Tucuti, Chepigana District, Prov. Darién, near sea level, March 6, 1940, *M. E. & R. A. Terry* 1411 (type in Herb. Field Mus.). Cana–Cuasi trail, Chepigana District, alt. 1,200 meters, March 12, 1940, *M. E. & R. A. Terry* 1517.

In Cogniaux's account of the genus (in DC. Monogr. Phan. 7: 1082. 1891) this would run in the key to either *Topobea ciliata* Cogn. of Ecuador or *T. Watsonii* Cogn., of the Río Chocón, Guatemala. It is not likely to be confused with either of those species.

MYRSINACEAE

Parathesis hondurensis Standl., sp. nov.—Frutex 1.5 m. altus, ramis crassiusculis teretibus fusco-ochraceis, novellis dense furfuraceo-puberulis, internodiis plerumque brevibus; folia modica breviter petiolata subcoriacea, petiolo crasso 6–12 mm. longo ferrugineo-puberulo; lamina lanceolato-oblonga vel elliptico-oblonga 7.5–13 cm. longa 3.5–4.5 cm. lata acuminata vel longiacuminata, basin versus subabrupte contracta et cuneato-angustata, in toto margine crebre undulato-dentata, supra in sicco fuscescens glabra, nervis subimpressis, subtus brunnescenti-viridis, primo ferrugineo-subtomentosa cito glabrescens, in statu adulto fere glabra, costa tenera elevata, nervis lateralibus utroque latere ca. 19 teneris prominentibus angulo latiusculo adscendentibus versus marginem obscuris et arcuato-junctis, venis plerumque obsoletis; inflorescentia terminalis laxe multiflora umbellato-paniculata thyrsiformis bipinnatim ramosa

breviter pedunculata 8–12 cm. longa usque 5 cm. lata, ramis crassiusculis ferrugineo-tomentulosis vel glabratis, ramis primariis brevibus divaricatis, floribus umbellatis, pedicellis usque 7 mm. longis, bracteis minutis oblongis vel fere subulatis ciliolatis; fructus globosus 6–7 mm. diam. basi et apice late rotundatus glaber.—Honduras: Tegucigalpa, Montaña de la Flor, alt. 960 meters, pine and oak region near river, December, 1937, *Christine & Wolfgang von Hagen* 1240 (type in Herb. Field Mus.).

The local name is reported as Uva.

Weigeltia panamensis Standl., sp. nov.—Frutex simplex 60–120 cm. altus, caule subtereti 1.5 cm. crasso vel paullo ultra apice dense foliato sordido-ochraceo; folia inter maxima ut videtur verticillata petiolata subcoriacea, petiolo crassiusculo ca. 12 cm. longo sparse sordido-villosulo vel fere glabro; lamina late oblongo-obovata ca. 45 cm. longa et 21 cm. lata, apice late rotundata et retusa vel apiculata, basi acuta, supra in sicco fuscescens glabra, costa subprominente, nervis prominulis, subtus fere concolor fere glabra sed sparse hinc inde sordido-puberula, costa crassiuscula prominente, nervis lateralibus utroque latere ca. 18 teneris prominentibus angulo lato adscendentibus leviter arcuatis in marginem desinentibus, venis prominentibus laxe reticulatis; paniculae numerosae petiolis subaequilongae usque 13 cm. longae breviter pedunculatae dense multiflorae bipinnatim ramosae, ramis subfastigiatis minute puberulis in sicco fuscis, pedicellis brevibus vel nullis; flores 4-meri 3 mm. lati, petalis patentibus ovato-oblongis acutiusculis extus minute puberulis; sepala minuta vix 0.4 mm. longa acuta; antherae globosae minutae.—Panama: Rain forest, Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 10, 1940, *M. E. & R. A. Terry* 1490 (type in Herb. Field Mus.).

"Flowers crimson." The genus *Weigeltia* appears to be new to the North American flora. The Panama species is obviously related to *W. simplex* (Hook. f.) Mez of Ecuador and *W. Goudotiana* Mez of Colombia (see Pflanzenreich IV. 236: 290. *f. 48.* 1904), closely resembling Mez's illustration of the latter species. In *W. Goudotiana* the leaves are acute or acuminate and the inflorescences equal or even exceed the leaves.

SAPOTACEAE

Bumelia obovata (Lam.) A. DC. in DC. Prodr. 8: 191. 1844. *Sideroxylon obovatum* Lam. Illustr. 2: 42. 1793. *Jacquinia petiolata* J. R. Johnston, Proc. Amer. Acad. 40: 693. 1905.

Jacquinia petiolata was based upon *Johnston* 273 from Margarita Island, Venezuela. The species of *Bumelia* from the north coast of South America are poorly understood and in need of revision. It may be that the Margarita plant is specifically distinct from the common West Indian *Bumelia obovata*, but it is at least very closely allied with it.

Manilkara Williamsii Standl., sp. nov.—Arbor 20–30-metralis glabra vel glabrata, ramulis crassis solemniter nodosis ochraceis longitrorsum rugosis, internodiis brevissimis; folia versus apicem rami dense inserta petiolata coriacea in sicco brunnescentia, petiolo gracili 1.5–4.5 cm. longo; lamina cuneato-obovata 7–12.5 cm. longa 4–7 cm. lata, apice latissime rotundata et retusa, basin versus fere ab apice cuneato-angustata, basi ipsa acuta, supra in sicco opaca, costa anguste profundeque impressa, nervis venisque obsoletis, subtus intensius brunnea, costa valde elevata, nervis fere occultis utroque latere ca. 14 rectis angulo lato divergentibus; flores (in alabastris tantum visi) in axillis dense aggregati, pedicellis crassis 4–5 mm. longis, alabastris oblongo-ovoideis 3–4 mm. longis obtusis.—Venezuela: Guayapo, Bajo Caura, Estado de Bolívar, alt. 100 meters, April 18, 1939, *Llewelyn Williams* 11860 (type in Herb. Field Mus.).

Regarding this tree, noteworthy in the genus for its cuneate leaves, Mr. Williams' notes are as follows: "Local name, Purguo. A tree of 20–30 meters or more, the crown spreading, with thick branches; trunk round and usually erect, 80–150 cm. in diameter, without branches for more than half its height and with 3 or more short, thick buttresses; bark reddish brown, scaly, deeply fissured, similar to that of some oaks, 2.5 cm. thick, the inner bark paler; sapwood thin, pale, the heartwood thick, varying from pinkish to dark red, susceptible to the attacks of insects. The flowers are said to be pale yellow, and the fruit to have edible pulp. The bark exudes an abundant, sticky latex, the balatá of commerce. The heartwood is highly valued for house frames and other similar purposes. The tree is found in low ground that is not very wet, and also in the high forests that are not flooded. The tree is said to grow in abundance in the mountains of Nichare, Icuta, Tres Picos, below Salto de Para, and in the vicinity of Caño de Pablo and Erevato."

EBENACEAE

Diospyros Johnstoniana Standl. & Steyerm., sp. nov.—Arbor 7.5 m. alta ramosa, ramulis gracilibus brunnescentibus vel fusco-ochraceis teretibus lenticellatis densiuscule foliatis, internodiis plerumque brevibus sparse patule hispidulis; folia parva petiolata mem-

branacea, petiolo 4–7 mm. longo hispidulo; lamina cuneato-obovato-oblonga ad oblanceolato-oblonga 3.5–5.5 cm. longa 1.5–2.5 cm. lata apice late rotundata usque obtusa, basin versus longiuscule cuneato-angustata, supra in sicco fuscescens glabra vel glabrata, costa subimpressa, nervis non elevatis, subtus concolor sparse praesertim ad costam nervosque hirtella vel glabrata, costa tenera prominente, nervis lateralibus utroque latere ca. 5 tenerrimis angulo semirecto adscendentibus fere rectis prope marginem irregulariter conjunctis, venis obscuris; calyx usque 1.5 cm. latus breviter 3–4-lobatus sparse extus hispidulus; fructus depresso-globosus viridis glaber ca. 3 cm. latus apice late rotundatus; semina aliquanto compressa fusco-brunnea 14 mm. longa 7 mm. lata, marginibus acutis.—Guatemala: Damp ravine along Río Guacalate, near Pastores, Dept. Sacatepéquez, alt. 1,600 meters, December 14, 1938, *Paul C. Standley* 59934 (type in Herb. Field Mus.).

The species is referable to the genus *Maba*, if that be maintained as distinct from *Diospyros*. It is named for Dr. J. R. Johnston, in whose company the type was collected.

STYRACACEAE

Styrax longifolius Standl., sp. nov.—Arbor 4–6-metralis, ramis crassiusculis ferrugineis longitrorsum rimosis primo dense minute stellato-tomentellis; folia magna breviter petiolata subcoriacea, petiolo crasso 1–1.5 cm. longo minute stellato-tomentello; lamina elliptico-oblonga 14–26 cm. longa 6–11 cm. lata subito anguste caudato-acuminata, basi obtusa, supra in sicco fusca sublucida glabra, costa nervisque plus minusve impressis, venis planis, subtus pallida fusco-grisea ubique nervis venisque exceptis tomento minutissimo arcte adpresso fulvido obtecta, costa gracili elevata, nervis lateralibus utroque latere ca. 11 subarcuatis prominentibus teneris angulo semirecto vel paullo latiore adscendentibus, venulis prominentibus laxe reticulatis, nervis costaque glabratis; inflorescentiae racemiformes in axillis vel ad nodos defoliatos dense aggregatae ad 9 cm. longae laxe pauciflorae, ramis et pedicellis tomento brevi ferrugineo stellato obtectis, pedicellis usque 13 mm. longis; calyx campanulatus ca. 6 mm. altus et 5 mm. latus fere truncatus, margine undulato, tomento minuto denso stellato fulvido obsitus; corolla 1.5 cm. longa extus dense adpresso-stellato-tomentella, lobis lineari-oblongis obtusis 3 mm. latis; ovarium dense stellato-tomentellum, stylo filiformi glabro 14 mm. longo; antherae dense pilosae.—Peru: On river bank, Gamitanacocha, Río Mazán, Dept. Loreto, alt. 100–125 meters, January 17, 1935, a tree 6 meters high, the trunk about

6 cm. in diameter, the flowers yellowish white, *José M. Schunke* 61 (type in Herb. Field Mus.). Balsapuerto, Dept. Loreto, alt. 220 meters, in forest, flowers white, June, 1933, *G. Klug* 3110.

The species is noteworthy in having leaves much larger than those of most other species of the genus.

HYDROPHYLLACEAE

Nama Bartlettii Standl., sp. nov.—Herba erecta ut videtur annua ramosa ca. 30 cm. alta, caulibus e basi pluribus sparse ramosis sat dense pilis gracillimis patulo-pilosis dense foliatis ubique late bialatis, alis ca. 2 mm. latis; folia sessilia membranacea anguste oblongo-oblanceolata vel spathulato-oblanceolata plerumque 2.5–5.5 cm. longa et 6–12 mm. lata, apice rotundata ad subacuta, basin versus sensim attenuata et longe decurrentia, supra laete viridia sparse hirsuta et densiuscule viscido-pilosula, subtus paullo pallidiora dense patulo-pilosa et glandulosa; inflorescentiae ex axillis superioribus nascentes plerumque 3–5-florae, plus minusve corymbiforme dispositae graciliter pedunculatae, pedicellis plerumque 2–7 mm. longis; sepala fere libera lanceolato-linearia viridia hirsuta et glanduloso-pilosula acuta, ad anthesin 5 mm. longa, in statu fructifero usque 9 mm. longa; corolla pallide purpurea ca. 8 mm. longa extus sparse pilosula, lobis latis brevibus; capsula oblonga 4 mm. longa obtusa minute sparseque adpresso-pilosula, stylis 3 mm. longis; semina ca. 30 et 0.8 mm. longa grosse reticulata.—Mexico: La Morita, vicinity of Marmolejo, Tamaulipas, alt. 510 meters, August, 1930, *H. H. Bartlett* 10745 (type in Herb. Field Mus.). Moctezuma, Tamaulipas, August 15, 1930, *Bartlett* 10960.

Evidently the plant is a relative of *Nama undulatum* HBK., a common species of Mexico, but that is usually a lower, stouter, more densely leafy herb, in which the leaves are merely sessile rather than long-decurrent as broad wings along the stems.

Nama biflorum Choisy, var. **Marshii** Standl., var. nov.—Herba ut videtur elata, caule elongato; folia magna tenuia usque 3 cm. longe petiolata, petiolo usque ad basin anguste alato; lamina rotundato-ovata vel late deltoideo-ovata vulgo 3–5 cm. longa et 3–4 cm. lata obtusa, basi truncata vel breviter cordata atque abrupte contracto-decurrens; flores racemosi, racemis usque 10 cm. longis 7–9-floris; sepala linearia 8–12 mm. longa; corolla 12 mm. longa; caetera ut in forma typica speciei.—Mexico: Ciudad Muzquiz, La Mariposa, Coahuila, December 5, 1936, *Ernest G. Marsh, Jr.* 1036 (type in Herb. Field Mus.).

At first I was inclined to believe that the plant here described represented a distinct new species, and such may well be the case. *Nama biflorum* shows a large amount of variation, and plants of this family are notoriously variable, so that the safer course seems to be to assign only varietal rank to the Coahuila plant. It differs from all specimens of *N. biflorum* that I have seen in its much larger leaves, truncate to cordate at the base, in the numerous flowers of each inflorescence, and in the substantially larger flowers. If further collections show that these characters are constant, they are sufficient for specific segregation, but there is a possibility that the plant is merely a sporadic variation, induced by abundant moisture.

Nama dichondrifolium Standl., sp. nov.—Herba ramosa ut videtur procumbens, caulibus dichotome ramosis 25 cm. longis et ultra dense pilis longis albis patulis pilosis plus minusve flexuosis; folia petiolata membranacea, petiolo usque 1.5 cm. longo dense longipiloso usque ad basin latiuscule alato; lamina reniformis vel reniformi-ovata usque 2 cm. longa et 3 cm. lata, apice obtusissima ad late rotundata, basi truncata vel breviter cordata, utrinque dense pilis longis patulis albis hirsuto-pilosa, subtus paullo pallidior; inflorescentiae axillares breviter pedunculatae plerumque triflorae, pedicellis gracillimis ad 8 mm. longis dense hirsutis; sepala anguste lineari-attenuata 5–9 mm. longa erecta dense albo-hirsuta; corolla 9 mm. longa superne 3.5 mm. lata extus sparse hispidula, lobis late rotundatis brevissimis.—Mexico: Muzquiz, Palm Canyon, Coahuila, July 9, 1936, *Ernest G. Marsh, Jr.* 301 (type in Herb. Field Mus.). Muzquiz, spring of 1935, *Marsh* 142.

The relationship is with *Nama rotundifolium* (Gray) Macbride, of Coahuila and Nuevo León, but that differs in its smaller, relatively much narrower leaves, which are green rather than hoary as in *N. dichondrifolium*.

VERBENACEAE

Clerodendron epiphyticum Standl., sp. nov.—Frutex fere glaber 80–100 cm. altus ramosus, ramis crassis, vetustioribus ochraceis plus minusve angulatis vel subteretibus sparse lenticellatis, novellis compressis et ancipitibus sparse hispidulis vel fere glabris ad nodos incrassatis, cicatricibus petiolorum obliquis, internodiis brevibus vel aliquanto elongatis; folia inter minora petiolata coriacea, petiolo crasso 4–8 mm. longo supra profunde sulcato, sparse hispidulo vel glabro; lamina elliptico-oblonga vel lanceolato-elliptica glabra 4.5–7 cm. longa 1.8–3 cm. lata breviter acuminata vel acuta, basi

acuta, integra, supra lucida, costa nervisque impressis, subtus multo pallidior lutescens, costa gracili prominente, nervis lateralibus utroque latere 3–5 prominentibus irregularibus angulo angusto adscendentibus prope marginem laxe arcuato-conjunctis, venis omnino occultis, marginibus saepe revolutis; flores ut videtur fasciculati et in axillis vel ad apices ramulorum dense aggregati, pedicellis usque 18 mm. longis superne paullo incrassatis prope basin geniculatis; calycis tubus late campanulatus subcoriaceus 4 mm. longus truncatus, lobis 5 segregatis lineari-subulatis subobtusis tubo aequilongis vel interdum usque 8 mm. longis erectis; corolla in alabastro tantum visa apice obtusa extus glabra.—Costa Rica: Pejivalle, April 3, 1931, *C. H. Lankester* 1296 (type in Herb. Field Mus.). Entre la Laguna del Arenal y el Alto de La Carpintera, cerca de Tilarán, Guanacaste, alt. 650–700 meters, June 26, 1930, *A. M. Brenes* 12648.—Panama: Vicinity of El Valle, north wet rim, Prov. Coclé, alt. 800–1,000 meters, May 21, 1939, *P. H. Allen* 1824 (Herb. Mo. Bot. Gard.).

It is with considerable hesitation that I describe this puzzling and somewhat annoying plant, the two Costa Rican sheets of which were available when the *Flora of Costa Rica* was prepared. They were not listed there because the systematic position of the plant represented was then doubtful, and it is not certain even now. Habitally the plant is much like *Clerodendron Moldenkeanum* Standl. of southern Mexico, and I am inclined to believe that it is a relative of that, although substantially different. The calyx, particularly, is like or very similar to that of *C. Moldenkeanum.*

Although three sheets of specimens are at hand, none of them is satisfactory for study. Two collectors speak of the corollas, but the only corollas with the specimens are either in young bud or badly mutilated. The epiphytic habit is unusual in the Verbenaceae, but in a wet tropical forest not altogether unexpected. Some characters of the plant remind one of the Solanaceae, especially certain representatives of the genus *Lycianthes*, but what may be seen of the corolla indicates that the shrub has no place in that family.

Mr. Lankester states that the shrub grows on the upper levels of the branches, and that the corolla is purple. Mr. Allen reports the flowers as rose. Professor Brenes describes the leaves as fleshy with red nerves, the fruits as small and pinkish yellow.

SOLANACEAE

Lycianthes laxissima Standl., sp. nov.—Frutex 1–2-metralis glaber, ramis gracilibus subteretibus aliquanto tortuosis in sicco ad

nodos subconstrictis, internodiis plerumque 3–6 cm. longis; folia paris valde inaequalia majuscula brevissime petiolata membranacea, petiolo crassiusculo ad 6 mm. longo; lamina in foliis majoribus oblique oblonga vel ovali-oblonga 11–19 cm. longa 4–7.5 cm. lata subito longiacuminata, acumine angusto usque 3 cm. longo, basi valde obliqua uno latere obtusa vel rotundata altero attenuato-acuta, supra in sicco fusco-viridis, venulis prominulis arcte reticulatis, subtus paullo pallidior aliquanto brunnescens, costa tenera prominente, nervis lateralibus tenerrimis utroque latere ca. 13 prominulis arcuatis angulo latiusculo adscendentibus; lamina in foliis minoribus parium orbicularis usque oblongo-elliptica 1–4 cm. longa; inflorescentia axillaris laxissime paniculata pauciflora graciliter longipetiolata usque 15 cm. longa folia fere aequans, pedicellis gracillimis plerumque 1–2 cm. longis; calyx latissime campanulatus vel fere rotatus vix ultra 1.5 mm. longus ca. 3 mm. latus truncatus basi obtusus; corolla viridescenti-alba 12 mm. longa ut videtur campanulata fere ad medium lobata, lobis ovatis acutiusculis; bacca globosa 9 mm. lata.—Panama: Rain forest, Bajo Chorro, Boquete District, Prov. Chiriquí, alt. 1,800 meters, January 6, 1938, *Mrs. M. E. Davidson* 67 (type in Herb. Field Mus.); March 19, 1938, *Davidson* 421.

This is one of the plants that cast suspicion upon the validity of the genus *Lycianthes*, usually an easily recognized and certainly a most convenient segregate from the vast group *Solanum*. The character of the calyx seems to necessitate reference of the Panama shrub to *Lycianthes*, yet its general aspect is altogether that of certain *Solanum* species of the same general region.

Markea suaveolens Standl., sp. nov.—Frutex scandens ut dicitur 30 m. longus et ultra, ramis crassiusculis subteretibus, cortice exfoliante brunneo, internodiis glabris vel glabratis; folia breviter petiolata coriacea, petiolo crasso 4–6 mm. longo glabro supra profunde sulcato; lamina elliptico-oblonga interdum prope apicem paullo latior 6–10.5 cm. longa 2.5–5 cm. lata obtusa, basi obtusa vel anguste rotundata, glabra, supra in sicco lucida, costa nervisque subimpressis, subtus concolor minute puncticulata, costa gracili prominente, nervis lateralibus utroque latere 6–7 teneris prominulis subarcuatis angulo semirecto vel paullo latiore adscendentibus, venulis obsoletis; flores odori albi ad apices ramorum umbellato-aggregati, pedicellis gracilibus ca. 1 cm. longis sparse hispidulis superne incrassatis; calyx campanulatus ca. 7 mm. longus extus sparse hispidulus vel fere glaber fere ad medium lobatus, lobis ovatis vel late ovatis acuminatis erectis; corolla extus glabra 4.5 cm. longa,

tubo 13 mm. longo 2 mm. lato subabrupte in faucem dilatato, fauce ca. 2 cm. longo et 1 cm. lato, lobis latis ca. 1 cm. longis.—Colombia: Caviche, State of Boyacá, 130 miles north of Bogotá, in high, cool forest, alt. 1,200 meters, April 15, 1933, *A. E. Lawrance* 751 (type in Herb. Field Mus.).

Local name, Bejuco opa. "The corolla is white when first open, but turns to brilliant canary yellow before falling. The perfume is supremely exquisite."

Markea uniflora Lundell, Phytologia 1: 340. 1939.—The type is *Matuda* 2816 from the Volcán de Tacaná, Chiapas, Mexico, at 2,800 meters. The species occurs also in Guatemala: Dept. San Marcos, between Canjulá and La Unión Juárez, near southeast portion of Volcán de Tacaná, alt. 2,000–3,000 meters, February 22, 1940, *Steyermark* 36465. "A woody liana. Leaves coriaceous, dark green above, paler green beneath. Calyx 5-angled, light green, the margins brick-colored. Corolla pale olive-green, the tips of the lobes rolled inward and back. Hanging from a tree along a stream." The species is a well marked one, but the specific name is inappropriate, at least for the beautifully prepared specimen cited above. The inflorescence is actually a large, leafy cyme bearing three or five flowers, not one-flowered, as described and as shown in the cotype deposited in the Herbarium of Field Museum.

RUBIACEAE

Amphidasya ambigua Standl. Field Mus. Bot. 11: 181. 1936. *Sabicea ambigua* Standl. Field Mus. Bot. 7: 49. 1930.—The genus *Amphidasya* consists of three species, all natives of Colombia. Two were first described under *Sabicea*, one of them by Wernham, monographer of that genus, but, as explained when the genus was proposed (loc. cit.), there are ample grounds for assigning them generic status. Two recent Colombian collections of *A. ambigua* may be cited here, and the species has been found to extend northward into Panama: Colombia: Dept. Nariño, east side of Gorgona Island, alt. 50–100 meters, dense forest along stream, a slender shrub, the bracts (sepals?) white, February, 1939, *Killip & García* 33176. Intendencia El Chocó, dense forest south of Río Condoto, between Quebrada Guarapo and Mandinga, alt. 120–180 meters, a suffrutescent herb up to 80 cm. high, the calyx lobes white, April, 1939, *Killip* 35146.—Panama: Rain forest, Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, an herb of 30–75 cm., March, 1940, *M. E. & R. A. Terry* 1489. Same region, alt. 1,500 meters, March 15, 1940, *M. E. & R. A. Terry* 1561; an herb of 45–75 cm.

Amphidasya bullata Standl. Field Mus. Bot. 11: 181. 1936.—The species was based upon *Triana* 3315, labeled as coming from the provinces of Chocó and Barbacoas, Colombia. The type specimen is in the Paris herbarium, but there is a photograph and fragment of it in the Herbarium of Field Museum. Mounted with the type is a specimen of some member of the Gesneriaceae. Recently Field Museum has received from the Paris herbarium two duplicate specimens bearing the same Triana number, but both of these are *Amphidasya ambigua* Standl., a quite distinct species. It is clear that there is considerable variation in the material distributed under No. 3315. It may be that the two species were found growing together, which would in no way affect their standing as distinct species, or it may well be that they came from widely separated localities.

Anisomeris caurensis Standl., sp. nov.—Arbor 8-metralis, trunco ad 20 cm. diam., ramulis sat gracilibus teretibus ferrugineis vel ochraceis incurvo-puberulis vel glabratis, internodiis elongatis; stipulae persistentes triangulari-subulatae utrinque strigosae erectae 2–3 mm. tantum longae; folia majuscula breviter petiolata tenuiter coriacea, petiolo 4–7 mm. longo glabro vel sparse pilosulo; lamina elliptico-oblonga 8–15 cm. longa 3.5–6 cm. lata longiacuminata usque subacuta, apice ipso obtusissimo, basi acuta vel subacuta, supra in sicco fusca lucida glabra, costa nervisque prominentibus, subtus paullo pallidior brunnescens in axillis nervorum sparse breviterque barbata, aliter glabra vel glabrata, costa tenera elevata, nervis lateralibus utroque latere ca. 6 teneris prominentibus angulo semirecto adscendentibus arcuatis, venis obscuris non elevatis; inflorescentiae parvae pauciflorae axillares singulae, pedunculo gracili vix ultra 5 mm. longo strigoso, floribus sessilibus cymulam capituliformem ca. 5–6-floram efformantibus, bracteis minutis; hypanthium anguste cylindraceum superne paullo dilatatum 2–2.5 mm. longum densiuscule strigillosum; calyx vix ultra 1 mm. longus profunde lobatus extus sparse strigillosus, lobis oblongis obtusis vel subacutis patentibus; corolla alba extus sparsissime minuteque strigillosa vel fere glabra, tubo gracillimo 14 mm. longo ca. 0.6 mm. crasso, lobis patentibus ovato-oblongis obtusissimis 2.5–3 mm. longis.—Venezuela: Rebalses de Guayapo, Bajo Caura, Estado de Bolívar, alt. 100 meters, April 13, 1939, *Llewelyn Williams* 11782 (type in Herb. Field Mus.).

The nearest relative of the Venezuelan tree is *Anisomeris multiflora* (Bartl.) Schum., of British Guiana. In that the leaves are not barbate beneath, and the flowers are essentially glabrous.

Bathysa obovata (Ruiz) Schum. ex Standl. Field Mus. Bot. 7: 280. 1931.—In the original description one collection from Peru and two from Bolivia were cited. An additional Bolivian one may be reported: Dept. La Paz, Prov. Larecaja, Tuiri, near Mapiri, left bank of Río Mapiri, alt. 490–750 meters, a tree of 7.5 meters, September, 1939, *B. A. Krukoff* 10759.

Cephaelis Bradei Standl., sp. nov.—Frutex 1.5–2 m. altus glaber ut videtur dense ramosus, ramis in sicco fuscis, vetustioribus teretibus, internodiis plerumque elongatis; stipulae in vaginam truncatam induratam vix 1.5 mm. altam connatae, utroque latere brevissime bidentatae; folia inter minora breviter petiolata subcoriacea, petiolo crasso vix ad 3 mm. longo; lamina lineari-lanceolata 5.5–8.5 cm. longa 0.7–1.5 cm. lata, apicem obtusum versus longe sensimque attenuata, basin angustam versus longe angusteque attenuata, sublucida, supra in sicco fusca, costa nervisque non elevatis, subtus brunnescens, costa tenera prominente, nervis lateralibus utroque latere ca. 10 tenerrimis irregularibus angulo lato abeuntibus, venis paucis obscuris; flores dense capitati, capitulis terminalibus sessilibus parvis paucifloris ca. 5 mm. longis et aequilatis; bracteae 2 exteriores ovales vel late ovatae apice obtusae vel rotundatae induratae adpressae basi brevissime coalitae, interioribus similibus vel late oblongis aequilongis; calyx in statu fructifero campanulatus 2.5 mm. longus lucidus apice breviter triangulari-dentatus; corolla alba extus glabra, tubo cylindraceo 5 mm. longo fere 1 mm. crasso, fauce paullo dilatato, lobis 5 patentibus oblongis obtusis intus glabris 2 mm. longis; fructus globosus 4 mm. longus, pyrenis dorso obtuse grosseque costatis.—Brazil: Minas Geraes, Serra do Cipó, km. 134, April 15, 1935, *H. Mello Barreto* 1255 (*A. C. Brade* 14841; herb. Jard. Bot. Rio 27660; type in Herb. Field Mus.). Same locality, February 4, 1938, *Mello Barreto* 8891 (herb. Jard. Bot. Bello Horizonte 26200); *Mello Barreto* 8920 (herb. Bello Horizonte 25912).

In the genus *Cephaelis* the present species is notable for the numerous, sessile, very small flower heads, and the rather small, narrow leaves.

Cephaelis crebrinervia Standl. Field Mus. Bot. 11: 188. 1936.—When this species was published, only the type was known, *Ducke* 15351, from Antonio Lemos, near Rio Tajapurú in the estuary of the Amazon, State of Pará, Brazil. The following additional collections, all from Brazil, are now at hand: Furo Macujabim, Bôa Vista, September, 1901, *Manoel Guedes* 2242. State of Amazonas, Munici-

pality Humayta, between Monte Christo and Santa Victoria, on Rio Ipixuna, margin of river, a shrub of 3.5 meters, November, 1934, *Krukoff* 7263.

Chione guatemalensis Standl. & Steyerm., sp. nov.—Frutex vel arbor omnino glabra, ramis subteretibus in sicco fuscescentibus paullo nodosis, internodiis brevibus; stipulae caducae; folia majuscula petiolata subcoriacea, petiolo crassiusculo 2–2.5 cm. longo supra canaliculato; lamina anguste elliptico-oblonga 14.5–16.5 cm. longa 4.5–5.2 cm. lata breviter obtuso-acuminata, basi acuta, lucida, supra in sicco fusco-brunnescens, costa subimpressa, nervis prominulis, venis obsoletis, subtus pallidior, costa tenera prominente, nervis lateralibus utroque latere ca. 9 tenerrimis obscuris vix prominulis angulo semirecto vel paullo latiore adscendentibus, venis obsoletis; inflorescentia (perfecta non visa) terminalis cum pedunculo ca. 10 cm. longa longipedunculata ut videtur pauciflora, floribus sessilibus vel breviter crasseque pedicellatis; fructus oblongus basi et apice obtusus lucidus 2 cm. longus 8–9 mm. latus apice calyce persistente coronatus; calyx 1.5–2 mm. altus profunde dentatus, dentibus triangularibus acutis.—Guatemala: Dept. Izabal, Río Dulce, between Livingston and 6 miles up river, on north side (right-hand side going up river), at sea level, April 14, 1940, *Julian A. Steyermark* 39375 (type in Herb. Field Mus.).

"Fruit fleshy, greenish, turning mango-orange, red in upper half. Leaves coriaceous, dark grass-green above, pale green beneath." The only other species of *Chione* with equally large fruit is the recently described *C. chiapensis* Standl., of Chiapas, Mexico. In that the fruits are equally long but only half as thick as those of *C. guatemalensis*, but this difference in thickness may be the result of mere differences in state of development. In *C. chiapensis* the leaves are excavate and barbate beneath in the axils of the primary nerves; in *C. guatemalensis* the axils are neither excavate nor barbate but smooth and quite glabrous.

Coccocypselum cordatum Krause, Anex. Mem. Inst. Butantan 1, fasc. 3: 13. *pl. 1.* 1922.—A photograph (neg. 263) and fragment of the type, *Hoehne* 753 from the State of São Paulo, Brazil, are in the Herbarium of Field Museum, and there are several recent collections that represent the species: Bolivia: Mapiri region, San Carlos, alt. 850 meters, May, 1927, *Buchtien* 1439.—Brazil: Est. de campo Grande, São Paulo, October, 1892, *Gust. Edwall* 1892 (herb. Inst. Biol. S. Paulo 11465). Estado do Rio de Janeiro, Sto. Antonio de Imbê, April, 1932, flowers and fruits blue, *Brade & Santos Lima*

11560. Estado do Rio de Janeiro, Morro Azul, March, 1932, *Brade* 11424 (herb. Mus. Nac. Rio 26131). Estado do Rio de Janeiro, Sta. Magdalena, March, 1934, alt. 700 meters, *Santos Lima & Brade* 13362 (herb. Jard. Bot. Rio 24615). Matta, Matta da Empreza, Municipio Cambuquira, Minas Geraes, December, 1935, *Mello Barreto* 6822 (herb. Jard. Bello Horizonte 20217). Matta, Fazenda da Vargem Alegre, Municipio Tombos, Minas Geraes, common, fruit blue, July, 1935, *Mello Barreto* 1607 (herb. Jard. Bello Horizonte 17275).

Coccocypselum crassifolium Standl., sp. nov.—Herba procumbens ramosa, caulibus crassis, vetustioribus ferrugineis subteretibus vel obtuse angulatis, interdum costatis, novellis densissime pilis longis adscendentibus ochraceis vel lutescentibus villosis, internodiis plerumque elongatis; stipulae e basi latiuscula subulatae usque 9 mm. longae villosae; folia breviter petiolata majuscula in sicco coriacea et rigida, petiolo crasso 5–8 mm. longo dense piloso; lamina ovata usque lanceolato-oblonga vel triangulari-ovata 4.5–7 cm. longa 2–5 cm. lata acuta vel subobtusa, apice ipso obtuso, basi rotundata et breviter lateque cordata, supra in sicco fusca ad costam nervosque saepius impressos pilosa, aliter glabra, subtus pallidior dense pilis nitentibus plerumque patulis molliter pilosa, costa crassa elevata, nervis lateralibus utroque latere ca. 8 arcuatis prominentibus et costiformibus in marginem desinentibus, infimis angulo recto abeuntibus, superioribus angulo latiusculo adscendentibus, margine saepe revoluto; capitula globosa densissime multiflora ca. 2 cm. diam., pedunculis crassis 1–2 cm. longis, bracteis viridibus oblongo-linearibus; hypanthium dense pilosum, sepalis fere liberis ca. 3 mm. longis e basi latiuscula oblongo-linearibus attenuatis acutiusculis hispidulis; corolla non visa, ut dicitur caerulea; bacca subglobosa 4.5 mm. longa sat dense hispidulo-pilosa.—Brazil: Estado do Rio de Janeiro, Serra dos Orgãos, alt. 1,600 meters, March 19, 1932, *A. C. Brade* 11455 (herb. Mus. Nac. Rio 26165; type in Herb. Field Mus.). Minas Geraes, margem de capão, Serra do Cipó, km. 128, Palacio, Municipio Santa Luzia, September, 1933, *Mello Barreto* 3503 (herb. Jard. Bello Horizonte 7085); same region, capoeira, km. 115, August, 1936, *W. A. Archer & Mello Barreto* 4990 (herb. Jard. Bello Horizonte 18063).

An ally of the widely distributed *Coccocypselum lanceolatum* (Ruiz & Pavón) Pers., which has relatively thin leaves that are evenly pilose over the upper surface. In *C. crassifolium* the pubescence of the upper leaf surface is confined to the costa and nerves.

Coccocypselum glabrifolium Standl. Field Mus. Bot. 8: 165. 1930.—When described, a single collection of this well marked species was available, a specimen of an unknown collector, from São Paulo. The following additional collections are now in the Herbarium of Field Museum, all from Brazil: Jaguariahyva, Paraná, alt. 730 meters, December, 1910, *P. Dusén* 11321, pro parte. Rio de Janeiro, *Glaziou* 17030, 8744. Minas Geraes, *Saint-Hilaire* B. 459, D. 487. Estado do Rio de Janeiro, Sta. Magdalena, Serra Turquitha, alt. 1,600 meters, March, 1935, *Santos Lima & Brade* 14269 (herb. Jard. Bot. Rio 27687). Estado do Rio de Janeiro, Sta. Magdalena, Pedra das Flores, alt. 1,200 meters, March, 1934, *Santos Lima & Brade* 13360 (herb. Jard. Bot. Rio 24613). Estado do Rio de Janeiro, Serra dos Orgãos, alt. 2,000–2,200 meters, *Brade* 11451 (herb. Mus. Nac. Rio 26161).

Coccocypselum Hoehnei Standl., sp. nov.—Herba perennis ut videtur decumbens vel procumbens, caulibus ramosis usque 30 cm. longis vel ultra crassiusculis dense pilis brevibus patulis pallidis hispidulo-pilosis, internodiis plerumque foliis longioribus; stipulae persistentes subulatae hispidulae ca. 6 mm. longae; folia inter minora breviter petiolata in sicco crasse membranacea, petiolo crassiusculo piloso 4–5 mm. longo; lamina ovata vel oblongo-ovata 2–3.5 cm. longa 1–2 cm. lata obtusa vel subacuta, basi late rotundata, supra subsparse pilis brevibus lutescentibus patulis vel subadpressis pilosa, nervis obscuris, subtus paullo pallidior ubique subsparse breviterque pilosa, costa prominula, nervis lateralibus utroque latere 4–5 obscuris tenerrimis; capitula densissime multiflora cum floribus ca. 2 cm. lata usque 3 cm. longe pedunculata, bracteis viridibus anguste lanceolato-oblongis usque 7 mm. longis acutis dense adpresso-hispidulis, floribus sessilibus; sepala fere libera oblongo-linearia ca. 4 mm. longa viridia acutiuscula; corolla ca. 11 mm. longa extus densiuscule pilis brevibus adscendentibus vel subadpressis hispidula, lobis ovato-oblongis obtusis ca. 4 mm. longis et tubo duplo brevioribus, tubo superne dilatato, lobis intus glabris.—Brazil: Jaguariaíva, Paraná, November 6, 1928, campo humido, *F. C. Hoehne* 23435 (type in Herb. Field Mus.). Prov. São Paulo, 1816–21, *Auguste de Saint-Hilaire* C. 1416 (ex herb. Paris). Jaguariahyva opp. in rupibus campestribus, Paraná, alt. 730 meters, December, 1910, *P. Dusén* 11321 pro parte.

This Brazilian plant evidently is related to *C. glabrifolium* Standl., listed above, but in that species the leaves are quite glabrous.

Coccocypselum Krauseanum Standl. Field Mus. Bot. 8: 164. 1930.—The species was based on a single collection, *Hoehne* 754 from Alto da Serra, São Paulo. Two more recent Brazilian collections are conspecific: Estado do Rio de Janeiro, Itatiaya, Repreza Taquaral, alt. 850 meters, flowers blue, February, 1936, *A. C. Brade* 15087 (herb. Jard. Bot. Rio 28211); same locality, berries blue, May, 1935, *Brade* 14641 (herb. Jard. Bot. Rio 26172).

Coccocypselum Lyman-Smithii Standl. Field Mus. Bot. 8: 165. 1930.—The original description was based upon a single collection, *Lyman B. Smith* 1464 from Mt. Itatiaya, Brazil. Several additional specimens of this rather sharply differentiated species deserve mention: Umuarama, C. do Jordão, São Paulo, January, 1935, *M. Kuhlmann* 32415. Prov. Minas Geraes, 1816–21, *A. de Saint-Hilaire* D. 537 (ex herb. Paris). Serra do Itatiaia, Rio de Janeiro, June, 1913, *Tamandaré & Brade* 6356 (herb. Inst. Biol. S. Paulo 6787). Itatiaia, Serra da Mantiqueira, alt. 2,300 meters, fruits bluish, *R. W. Kaempfe* 437. Campo Itatiaia, *H. Luederwaldt* 462 (herb. Inst. Biol. S. Paulo 11476). Estado do Rio de Janeiro, Serra dos Orgãos, alt. 2,000 meters, March, 1932, *Brade* 11450 (herb. Mus. Nac. Rio 26160).

Coccocypselum pedunculare Cham. & Schlecht. Linnaea 4: 142. 1829.—This species, although several collections are reported for it in *Flora Brasiliensis*, is rather sparsely represented in herbaria, and the following recent specimens perhaps are worthy of citation: Serra do Itacolomy, Ouro Preto, Minas Geraes, campos humidos, alt. 1,752 meters, flowers blue, in 1939, *José Badini* 3803. Serra do Cipó, km. 140, Minas Geraes, April, 1935, *Mello Barreto* 1136; *Brade* 14740 (herb. Jard. Bot. Rio 27670). Campo, Serra do Cipó, km. 143, estrada do Pilar, Municipio Santa Luzia, Minas Geraes, scarce, flowers violet, February, 1938, *Mello Barreto* 8979 (herb. Jard. Bello Horizonte 26096).

Coccocypselum pumilio Standl. Field Mus. Bot. 8: 346. 1931.—When the species was published, a single collection was known, *Dusén* 13283 from Jaguariahyva, Paraná, Brazil. Two recent collections show that it has a rather wide range: São Paulo, Sto. Amaro, Rio Pinheiro, flowers blue, *A. C. Brade* 12367 (herb. Mus. Nac. Rio 26878). Poços de Caldas, Minas Geraes, January, 1919, cascata, fl. roxa, *F. C. Hoehne* 2761.

Coccocypselum sessiliflorum Standl. Field Mus. Bot. 11: 194. 1936.—Only three collections were known to the writer when this

Brazilian species was described, but three additional ones may now be cited, all from the State of Rio de Janeiro: Sto. Antonio de Imbê, alt. 1,100 meters, *Brade & Santos Lima* 11557. Sta. M. Magdalena, alt. 900 meters, flowers bright blue, March, 1935, *Santos Lima & Brade* 14271 (herb. Jard. Bot. Rio 27685). Serra dos Orgãos, alt. 1,400 meters, berries blue, May, 1931, *Brade* 10780 (herb. Mus. Nac. Rio 24305). The last collection is noteworthy for its subreniform leaves, broadly rounded to almost emarginate at the apex. At first I was inclined to believe that it represented a distinct species, but probably it is best treated as a variant of *C. sessiliflorum.*

Cosmibuena Rhizophorae Standl., sp. nov.—Arbuscula glabra, ramulis fuscescentibus subteretibus crassis longitrorsum rugosis, internodiis brevibus; folia parva petiolata in sicco crasse coriacea, petiolo crasso 5–15 mm. longo; lamina late elliptica usque rotundato-obovata 3–5 cm. longa 2–3.5 cm. lata, apice rotundata vel obtusissima, basi late cuneato-angustata vel obtusa, interdum fere rotundata, supra in sicco fuscescens, costa nervisque obscuris, subtus fere concolor, costa nervisque obsoletis; stipulae oblongo-obovatae ca. 12 mm. longae et 5 mm. latae caducae tenues nervosae obtusae; flores ut videtur terminales et solitarii subsessiles; capsula linearioblonga obtuse costata 4.5 cm. longa, apicem basinque versus aliquanto angustata, valvulis ca. 7 mm. latis; coma seminum pallide brunnescens.—Colombia: In mangrove swamp, Buenaventura Bay, Dept. El Valle, April 13, 1939, *E. P. Killip* 34972 (type in Herb. Field Mus.).

The species is noteworthy for its unusually small leaves.

Coussarea caroliana Standl., sp. nov.—Frutex vel arbor 3–6-metralis glabra, trunco usque 9 cm. diam., ramis gracilibus subteretibus viridibus, internodiis plerumque elongatis; stipulae deciduae ante anthesin clausae 12–17 mm. longae, mox uno latere fissae lineares vel lineari-oblongae attenuatae; folia modica breviter petiolata membranacea, petiolo 7–10 mm. longo; lamina elliptica vel elliptico-oblonga 10–14.5 cm. longa 4–7 cm. lata acuta vel breviter acuminata, basi obtusa vel acutiuscula, supra laete viridis, subtus pallidior, costa tenera prominente, nervis lateralibus utroque latere ca. 12 tenerrimis subarcuatis angulo lato interdum fere recto abeuntibus prope marginem irregulariter arcuato-conjunctis, venulis obsoletis; inflorescentia terminalis thyrsiformis 4–5 cm. longa basi usque 3 cm. lata laxe pauci- vel multiflora, floribus in cymulas parvas paucifloras umbelliformes sessiles vel inferiores usque 7 mm. longe pedunculatas aggregatis, pedicellis usque 3 mm. longis crassiusculis saepius

fere nullis, bracteis minutis deciduis; hypanthium clavatum fere 2 mm. longum, calyce late campanulato 1.2 mm. longo undulato; corolla alba extus glabra in alabastro apice obtusa, tubo 8–9 mm. longo sursum vix dilatato medio 1.5 mm. lato, lobis ovato-oblongis obtusis 4 mm. longis.—Costa Rica: Suerre, Cantón de San Carlos, Prov. Alajuela, alt. 1,000 meters, March 2, 1939 *Austin Smith* H1645 (type in Herb. Field Mus.). Villa Quesada, Cantón de San Carlos, alt. 840 meters, February 28, 1939, *Austin Smith* H1722.

Concerning the plant the collector supplies the following information: "Growing in deep shade of the Caribbean rain forest. A spreading shrub or a tree with rather broad crown, the bark dark brownish gray, the cambium layer pale buff; leaves faintly shining above; inflorescence fleshy, the corolla 4-lobed, the flowers inodorous. A rather common species here." The species is somewhat similar to *C. impetiolaris* Donn. Smith, also Costa Rican, but in that the leaves are essentially sessile, and the inflorescence is relatively broad, rather than thyrsiform.

Coussarea Colonis Standl., sp. nov.—Frutex, ramis sat gracilibus sparse vel dense sericeis, mox glabratis, internodiis ut videtur elongatis; stipulae deciduae lineari-lanceolatae basi paullo dilatatae sericeae ca. 13 mm. longae erectae; folia inter maxima petiolata tenuiter membranacea, petiolo gracili 2.5–4 cm. longo sparse sericeo; lamina elliptica vel oblongo-elliptica 26–34 cm. longa 12–15.5 cm. lata, apice acutata et subito longeque caudato-acuminata, basi acuta vel prope basin subito contracta et longe decurrens, supra viridis fere glabra sed pilis paucis longis laxisque conspersa, subtus pallidior sparse pilis longis laxis subadpressis albidis sericea, costa gracili elevata, nervis lateralibus utroque latere ca. 13 tenerrimis arcuatis prominentibus angulo lato adscendentibus juxta marginem arcuato-conjunctis, venulis prominulis laxe reticulatis; inflorescentia terminalis cymoso-paniculata 4–9 cm. longa usque 7 cm. lata laxe multiflora ca. 2.5 cm. longe pedunculata, ramis basalibus oppositis vel verticillatis patentibus vel adscendentibus dense sericeis, bracteis lanceolatis vel subulatis parvis sericeis, floribus fere omnibus pedicellatis, pedicellis fere filiformibus usque 8 mm. longis; hypanthium sparse adpresso-pilosum basi obtusiusculum 1.5 mm. longum, calyce campanulari 1.2 mm. longo remote minuteque denticulato; corolla alba in alabastro fere linearis, tubo gracili 11 mm. longo paullo ultra 1 mm. lato extus minutissime puberulo, lobis 5 linearibus in alabastro aliquanto tortis 6–7 mm. longis extus glabris; stamina inclusa.—Panama: Buena Vista, region of Almirante, Prov. Bocas del Toro,

January–March, 1928, *G. Proctor Cooper* 228 (type in Herb. Field Mus.). Buena Vista Camp on Chiriquí Trail, alt. 375 meters, Prov. Bocas del Toro, *Cooper* 585a.

The two collections cited were once determined by the writer as *Coussarea latifolia* Standl., a Costa Rican species to which this is not closely related, and duplicates may be found in other herbaria under that name. *Coussarea Colonis* is quite different from other Central American species in its inflorescence. The flowers are all young, and there is some possibility, in fact, on this account, that the species has not been referred to the proper genus.

A recent collection also appears to represent this species: Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 10, 1940, *M. E. & R. A. Terry* 1487; a shrub of 2–3 meters, the flowers white or pale cream. This differs from the type in having leaf blades only 4.5–5.5 cm. wide, and smaller flowers, with a corolla tube but 5 mm. long. It is possible that an ampler series of specimens will show that two species are represented, but since all three available collections agree so well in other characters, it is not advisable at present to name a second one.

Coussarea enneantha Standl. Journ. Wash. Acad. Sci. 18: 282. 1928.—The type is *R. S. Williams* 841 from the vicinity of Cana, Panama. There is now available a second collection from the same region: Cana–Cuasi trail, Chepigana District, Prov. Darién, alt. 900 meters, in flower, March, 1940, *M. E. & R. A. Terry* 1476. A shrub of 1.5–3 meters, with cream-colored flowers.

Coussarea Garciae Standl., sp. nov.—Arbuscula 3.5 m. alta, ramulis novellis crassis in sicco subcompressis et longitrorsum striatis glabris, internodiis superioribus brevibus; stipulae non visae; folia inter maxima glabra subsessilia, petiolo crassissimo glabro vix 5 mm. longo; lamina oblongo-obovata ca. 42 cm. longa et 19 cm. lata apice lato abrupte breviterque acutata, basin versus longe sensimque cuneato-angustata, basi ipsa obtusa vel anguste rotundata, supra in sicco cinereo-viridis, costa nervisque prominulis, sublucida, subtus paullo pallidior, costa gracili elevata, nervis lateralibus teneris prominentibus numerosis angulo latiusculo adscendentibus subarcuatis in marginem desinentibus, venulis vix prominulis laxe reticulatis; inflorescentia terminalis cymoso-paniculata densissime multiflora (in statu fructifero tantum visa) breviter pedunculata ca. 6 cm. longa atque 9 cm. lata, floribus plerumque crasse pedicellatis; calyx ad apicem fructus persistens glaber vel glabratus, tubo campanulato 7–8 mm. longo 4–4.5 mm. lato, lobis vulgo 6–7 mm. longis linearibus

sinubus latis sejunctis; fructus albus ellipsoideus ca. 1.5 cm. longus et fere 1 cm. latus basi et apice obtusus glaber.—Colombia: Intendencia El Chocó, Bahía Solano, dense forest along Quebrada Jellita, alt. 50–100 meters, February 22, 1939, *E. P. Killip & Hernando García* 33524 (type in Herb. Field Mus.).

The leaves are the largest found among all the Colombian species of *Coussarea* so far known.

Coussarea janeirensis Standl., sp. nov.—Frutex vel arbuscula glabra, ramis in sicco subcompressis et longitrorsum sulcatis ut videtur viridibus, internodiis elongatis; stipulae persistentes et incrassatae apice rotundatae denique breviter bilobae ca. 4 mm. longae aliquanto tuberculatae; folia modica petiolata papyracea, petiolo 1.2–1.7 cm. longo; lamina obovato-oblonga 11.5–16.5 cm. longa 5–7.5 cm. lata, apice rotundata vel obtusissima et subito breviterque caudato-acuminata, acumine lato obtuso usque 8 mm. longo, basi cuneato-angustata et ad petiolum longius decurrens, supra in sicco opaca, costa basin versus sulcata, nervis non elevatis, subtus paullo pallidior, costa tenera prominente, nervis lateralibus utroque latere ca. 9 tenerrimis angulo lato adscendentibus fere rectis versus marginem arcuato-conjunctis, venulis prominulis laxissime reticulatis; inflorescentia terminalis cymoso-corymbosa e basi radiatim ramosa ca. 3.5 cm. longa et usque 5 cm. lata, radiis basalibus 3–4 suberectis crassiusculis, floribus sessilibus vel breviter crasseque pedicellatis dense cymose aggregatis, bracteis minutis et deciduis vel nullis; hypanthium columnare vel sursum paullo crassius glabrum 1.5 mm. longum, calyce late campanulato 1 mm. tantum longo truncato; corolla extus glabra, tubo crasso 4–5 mm. longo sursum sensim dilatato, lobis elliptico-oblongis obtusis vel acutis 3.5–4 mm. longis patentibus intus glabris; antherae semiexsertae, stylo breviter exserto.—Brazil: Morro da Babilonia, Rio de Janeiro, October, 1914, *F. C. Hoehne* 24992 (type in Herb. Field Mus.).

Coussarea locuples Standl., sp. nov.—Arbor mediocris praeter flores omnino glabra, ramulis crassiusculis fusco-brunnescentibus subteretibus, novellis in sicco subcompressis, internodiis plerumque brevibus; stipulae vix ultra 3 mm. longae maturitate incrassatae persistentes, rotundatae vel fere truncatae et breviter subulato-apiculatae, apice vulgo deciduo; folia modica inaequalia tenuiter coriacea petiolata, petiolo crassiusculo 10–14 mm. longo; lamina oblonga vel elliptico-oblonga vulgo 14–16 cm. longa et 5–6 cm. lata sed interdum major, apice obtusa et subito contracta longe caudata, acumine angusto usque 2 cm. longo attenuato, basi late acuta vel

subito contracta et breviter decurrens, supra in sicco lucida brunnescens, costa tenera prominente, nervis lateralibus utroque latere ca. 9 arcuatis tenerrimis angulo latiusculo abeuntibus prope marginem arcuato-junctis, venis vix prominulis laxe reticulatis; inflorescentia terminalis sessilis vel breviter pedunculata densiuscule multiflora thyrsoideo-paniculata ca. 6 cm. longa et aequilata basi trichotoma, ramis basalibus usque 2.5 cm. longis, superioribus brevioribus crassis basi nudis vel bracteatis, bracteis parvis vel minutis latis acutatis, floribus dense cymoso-aggregatis sessilibus vel subsessilibus; hypanthium obconico-columnare glabrum 1.5–2 mm. longum, calyce glabro late campanulato 2–2.5 mm. longo remote breviterque dentato, dentibus remotis late triangularibus obtusis interdum apice minute puberulis; corolla alba extus minutissime sparseque puberula vel prope medium fere glabra, tubo gracili 1 cm. longo 2 mm. lato, lobis late linearibus obtusis patentibus 8 mm. longis; stamina inclusa.—Brazil: Inter flumina Jacurapá et Puruité affl. Rio Icá infer., civ. Amazonas, silva non inundabili, October 14, 1931, *A. Ducke* 24419 (type in Herb. Field Mus.).

Coussarea scalaris Standl., sp. nov.—Arbor parva omnino glabra, ramulis novellis in sicco complanatis longitrorsum sulcatis in vivo ut videtur viridibus, internodiis valde elongatis; stipulae plus minusve persistentes incrassatae tuberculatae usque 6 mm. longae late ovatae; folia majuscula breviter petiolata crasse chartacea, petiolo 10–12 mm. longo; lamina oblonga vel anguste oblonga, interdum oblanceolato-oblonga, 11–22 cm. longa 3–9 cm. lata, apice subito sensimve contracta et longe caudata, acumine fere lineari usque 2 cm. longo obtuso, basi acuta vel obtusa, supra in sicco griseoviridis sublucida, costa nervisque prominentibus, subtus pallidior, costa tenera elevata, nervis lateralibus utroque latere usque 17 regulariter parallelis angulo recto divergentibus teneris prominentibus subarcuatis juxta marginem arcuato-junctis, venis elevatis et arcte reticulatis; inflorescentia terminalis sessilis cymoso-paniculata basi triradiata ca. 6 cm. longa et 8 cm. lata, interdum longior, ramis gracilibus in sicco nigris, floribus plerumque umbellato-aggregatis, interdum cymosis, sessilibus vel brevissime crasseque pedicellatis, bracteis nullis, radiis infimis usque 3 cm. longis, superioribus sensim brevioribus divaricatis; hypanthium campanulatum 2–2.5 mm. longum in sicco sulcato-costatum, calyce truncato vix 2 mm. alto; corolla alba extus glabra in alabastro apicem versus sensim angusteque attenuata, tubo crasso 11 mm. longo prope basin ca. 2.5 mm. lato sursum paullo angustato, lobis 5 obtusis linearibus intus minute

tomentellis 5–6 mm. longis; antherae inclusae; stylus inclusus fere filiformis glaber 6 mm. longus.—Brazil: Parintins, civ. Amazonas, ultra lacum José-Assú, silva terris altis, December 28, 1935, *A. Ducke* 34996 (type in Herb. Field Mus.).

Coussarea stenocalyx Standl., sp. nov.—Arbor 5.5 m. alta, trunco 1.2–2.5 cm. diam., omnino glabra, ramulis subochraceis, internodiis brevibus; stipulae perfectae non visae, parte basali persistente vaginiformi 2–3 mm. longa; folia modica petiolata membranacea, petiolo gracili 1.5–3 cm. longo; lamina lanceolato-oblonga vel anguste lanceolata 14–19 cm. longa 4.5–6.5 cm. lata longe angusteque attenuato-acuminata, basi acuta vel acutiuscula, supra in sicco vix lucida, costa nervisque prominulis, subtus concolor, costa tenera prominente, nervis lateralibus utroque latere ca. 11 teneris prominulis subarcuatis prope marginem arcuato-conjunctis, venis prominulis laxe reticulatis; inflorescentia terminalis cymoso-corymbosa 1–2.5 cm. longe pedunculata basi triradiata, ramis crassiusculis suberectis, floribus in cymulas umbelliformes trifloras dispositis, pedicellis crassis 3–4 mm. longis; hypanthium cum calyce tubuloso-campanulatum 8–14 mm. longum 3–4 mm. latum basi late rotundatum, dentibus brevibus triangularibus ciliatis; corolla alba fere 3 cm. longa in alabastro longiattenuata, tubo sursum sensim dilatato et fauce 3 mm. lato, lobis linearibus tubo aequilongis apice ut videtur brevissime obtuseque corniculato-appendiculatis.—Colombia: State of Boyacá, Chapón region, alt. 1,080 meters, in dense forest, May 22, 1932, *A. E. Lawrance* 94 (type in Herb. Field Mus.).

Crusea Gentryi Standl. Bot. Ser. Field Mus. 22: 112. 1940.—Of this lately published species there has been received a new collection, extending its known range to a new state of Mexico, the type having come from Sonora: Sinaloa, northwest base of Cerro Colorado, moist, shady slope with *Quercus*, alt. 450 meters, February, 1940, *Howard Scott Gentry* 5473; a widely branched herb with white flower heads.

Declieuxia bouvardioides Standl., sp. nov.—Ut videtur fruticulus, ramosus, ramis subteretibus ochraceis, novellis densissime pilis longiusculis albidis patulis pilosis, internodiis foliis longioribus vel interdum brevioribus; stipulae filiformes usque 3 mm. longae dense patule pilosae; folia parva patentia breviter petiolata crasse membranacea, petiolo 2–2.5 mm. longo dense piloso; lamina ovata vel ovato-elliptica 6–12 mm. longa 3–6 mm. lata acuta vel subacuminata, basi acuta, supra fusco-viridis breviter pilosa, nervis obsoletis, subtus cinerea ubique pilis longis patulis plus minusve intertextis densissime pilosa; inflorescentiae terminales cymosae parvae pauci-

florae foliis vix longiores, bracteis parvis foliaceis patentibus, floribus sessilibus vel breviter pedicellatis; hypanthium minutum dense pilosum, sepalis minutis lineari-subulatis; corolla extus dense breviterque pilosa fere 4 mm. longa, tubo gracillimo sursum paullo dilatato, lobis oblongis obtusis patulis tubo duplo brevioribus; fructus carpella subglobosa dense patule pilosula.—Brazil: Minas Geraes, Conselheiro Matta, July, 1934, *A. C. Brade* 24679 (type in Herb. Field Mus.).

Declieuxia Bradei Standl., sp. nov.—Fruticulus dense ramosus dense foliatus, ramis fuscis tetragonis sat dense pilis longiusculis patentibus plurilocularibus hirsuto-villosis, internodiis foliis subaequalibus; stipulae subulatae vel fere filiformes 3–4 mm. longae pilosae; folia parva petiolata coriacea, petiolo gracili saepe marginato 2–4 mm. longo sparse villoso; lamina saepissime ovata, interdum elliptico-ovata, 9–13 mm. longa 4–6 mm. lata obtusa, basi subito angustata, supra fuscescens glabra lucida, costa nervisque valde impressis, sparse ad costam nervosque pilis longis rigidiusculis patulis villosa, costa elevata, nervis obscuris, venis obsoletis, margine solemniter revoluto; inflorescentiae terminales parvae cymoso-aggregatae dense multiflorae vix ad 1 cm. latae bracteatae, bracteis foliaceis lineari-oblongis plerumque 3–4 mm. longis; sepala foliacea oblongo-lanceolata acuta vel acuminata 2.5 mm. longa glabra sed interdum ciliata; corolla caerulea extus glabra 4–4.5 mm. longa, tubo late obconico, lobis subpatulis oblongis obtusis tubo duplo longioribus; fructus glaber didymus, coccis globosis fere 2 mm. altis.—Brazil: Estado do Rio de Janeiro, Sta. Magdalena, Alto do Desengano, alt. 2,000 meters, March 5, 1934, *Santos Lima & A. C. Brade* 15553 (Herb. Inst. Biol. Veg. 24606; type in Herb. Field Mus.).

Declieuxia calophylla Standl., sp. nov.—Frutex ut videtur sparse ramosus glaberrimus, ramis crassis, vetustioribus brunneo-ochraceis teretibus, novellis in sicco fuscis lucidis plus minusve striato-angulatis, internodiis foliis subaequilongis vel interdum longioribus; setae stipulares erectae vix ultra 2 mm. longae; folia majuscula crasse coriacea sessilia latissime elliptica vel subrotundata 2–4 cm. longa 1.2–3.5 cm. lata, apice rotundata et subito acuminato-apiculata, basi rotundata vel obtusissima, in sicco fusca lucida, costa nervisque utrinque prominentibus et conspicuis, subtus vix pallidiora dense minute pallido-punctata, costa crassiuscula, nervis lateralibus utroque latere ca. 7 regularibus arcuatis, omnibus prope apicem et juxta marginem arcuato-conjunctis, venis occultis; inflorescentiae terminales cymoso-paniculatae dense multiflorae usque 4.5 cm.

longae et aequilatae sessiles, floribus sessilibus vel brevissime pedicellatis plus minusve secundis, bracteis parvis oblongo-linearibus vix ultra 2 mm. longis; sepala minuta fere obsoleta; corolla ca. 6 mm. longa, tubo gracillimo sursum paullo sensim dilatato, lobis oblongo-ovatis vix ultra 1 mm. longis obtusis vel acutiusculis; antherae lineares breviter exsertae; fructus lucidus, coccis valde compressis 2.5 mm. longis.—Brazil: State of Minas Geraes, Serra do Cipó, km. 131, April 14, 1935, *H. Mello Barreto & A. C. Brade* 14738 (herb. Jard. Bot. Rio 27668; type in Herb. Field Mus.).

The species is marked by the broad, almost orbicular, very coriaceous and lustrous leaves, whose nerves are beautifully curved, parallel, and conspicuous, almost rib-like, in fact.

Declieuxia diantheroides Standl., sp. nov.—Fruticulus ramosus 30 cm. altus et ultra, ramis sat gracilibus teretibus ubique dense hirtello-puberulis, internodiis foliis subaequalibus vel saepe longioribus; stipulae e basi late dilatata subulatae 1–2 mm. longae rigidae erectae persistentes hirtellae; folia modica breviter petiolata membranacea, petiolo 2–3 mm. longo hirtello saepe fere ad basin marginato; lamina lanceolata vel lanceolato-elliptica 1.5–2.5 cm. longa 4–10 mm. lata acuminata, basi cuneato-acuta, margine valde revoluto, supra in sicco fusca sublucida puberula, nervis obscuris, costa vix prominula, subtus multo pallidior dense breviter patulo-pilosula, costa tenui prominente, nervis lateralibus utroque latere ca. 5 teneris arcuatis angulo semirecto adscendentibus, venis obsoletis; flores parvi in cymulas parvas axillares dense paucifloras longipedunculatas saepe secundifloras dispositi, sessiles vel breviter pedicellati, cymulis vix ultra 5 mm. latis, pedunculis gracilibus rigidis usque 12 mm. longis solitariis, bracteis anguste linearibus puberulis ad 3 mm. longis; hypanthium minutum puberulum, calyce brevissimo minute obscure dentato; corolla alba in alabastro tantum visa ca. 2.5 mm. longa extus minute hirtella apice obtusa, lobis latis ut videtur tubo subaequilongis; fructus (maturus?) ca. 2 mm. latus ad tertiam partem emarginatus, coccis suborbicularibus lateraliter aliquanto compressis minute hirtellis.—Brazil: Minas Geraes, Conselheiro Matta, June, 1934, *A. C. Brade* 13848 (herb. Jard. Bot. Rio 24680; type in Herb. Field Mus.).

Declieuxia minutifolia Standl., sp. nov.—Fruticulus dense intricateque ramosus 14 cm. altus vel ultra, ramis vetusioribus crassis sordide ochraceis, internodiis abbreviatis, novellis dense hirtellis sat dense foliatis; stipulae minutae subulatae; folia parva

opposita subsessilia ut videtur aliquanto carnosa vel in sicco coriacea 2–4 mm. longa fere clavata vel lineari-oblonga vel anguste spathulato-oblonga obtusissima vel apice rotundata, basi acuta vel attenuata, ubique dense hirtella, marginibus plus minusve revolutis; flores axillares sessiles; fructus dense hirtellus, coccis compressis orbicularibus ca. 1.3 mm. latis.—Brazil: Minas Geraes, Diamantina, June, 1934, *A. C. Brade* 13840 (herb. Jard. Bot. Rio 24689; type in Herb. Field Mus.).

Noteworthy for the very small, somewhat crowded, densely pubescent leaves, and the solitary, sessile flowers.

Duroia genipifolia Standl. & Steyerm., sp. nov.—Frutex, ramulis crassis glabris ochraceis teretibus, cortice tenui exfoliante, basibus crassis petiolorum brevibus persistentibus, internodiis brevissimis; stipulae deciduae fere 1 cm. longae lanceolatae subulato-attenuatae rigidiusculae dense pilosae; folia magna breviter petiolata membranacea, petiolo crassiusculo ca. 1.5 cm. longo dense piloso; lamina obovato-oblonga vel oblanceolato-oblonga 20–29 cm. longa 8–10.5 cm. lata acuminata, acumine subfalcato acute acuminato, basin versus longe sensimque angustata, basi ipsa acuta, supra in sicco fusca sublucida sparse pilis brevibus pallidis hirtella, tactu aspera, costa nervisque manifestis sed non elevatis, subtus concolor ubique sat dense pilis brevibus albidis patulis pilosa, costa tenera prominente, nervis lateralibus utroque latere ca. 16 teneris prominentibus subarcuatis angulo lato abeuntibus prope marginem arcuato-junctis, venis paucis prominulis laxe reticulatis; flores masculi ad apicem rami dense capitato-congesti numerosi sessiles vel breviter pedicellati, bracteis subulatis calyce brevioribus; calycis tubus campanulatus 5–6 mm. longus dense hispidulus truncatus, lobis 5 subulatis erectis hispidulis inaequalibus usque 8 mm. longis; corolla in alabastro ca. 18 mm. longa longissime angusteque attenuata extus dense albido-strigosa, tubo ca. 2.5 mm. crasso, lobis 5 in alabastro apice liberis lineari-attenuatis tubo brevi triplo longioribus et ultra.—Guatemala: Dept. Izabal, Río Dulce, between Livingston and 6 miles up river, on north side (right side going up river), at sea level, April 14, 1940, *Julian A. Steyermark* 39382 (type in Herb. Field Mus.).

"Leaves subcoriaceous, dark, dull green and rugose above, dull, paler green beneath." From Central (and North) America but a single species of this genus has been recorded, *D. costaricensis* Standl., of the Costa Rican highlands, the few other members of the genus being inhabitants chiefly of the Amazon Valley. In *D. costaricensis* the leaves are hirsute, in *D. genipifolia* merely short-pilose.

Elaeagia glomiflora Standl. Field Mus. Bot. 7: 281. 1931.—The only specimen available when the species was published was the type, collected in Bolivia by Pearce. A recent specimen from Bolivia well represents the species: Dept. La Paz, Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, July, 1939, in fruit, a tree of 9 meters, *B. A. Krukoff* 10366.

Faramea mattogrossensis Standl., sp. nov.—Frutex vel arbuscula glabra, ramis gracilibus teretibus ochraceis, internodiis brevibus; stipulae fere liberae 2.5 mm. longae latissimae apice rotundatae et in mucronem rigidum erectum subulatum 3 mm. longum contractae; folia parva breviter petiolata pergamentacea, petiolo crasso 5–6 mm. longo; lamina elliptico-oblonga vel obovato-oblonga 8.5–9.5 cm. longa 3–4 cm. lata acuta vel subacuminata, basi cuneato-acuta et breviter decurrens, supra in sicco fusca opaca, costa nervisque non elevatis, subtus paullo pallidior brunnescens, costa tenera prominente, nervis lateralibus utroque latere ca. 9 angulo lato divergentibus tenerrimis prominulis, venis fere obsoletis; inflorescentia terminalis sessilis cymoso-paniculata basi triradiata ca. 4 cm. longa et 6 cm. lata sat dense multiflora, radiis basalibus usque 2 cm. longis, floribus sessilibus capitatim aggregatis, bracteis lanceolatis longi-attenuatis ca. 3 mm. longis persistentibus; calycis tubus campanulatus 2 mm. longus, lobis anguste triangulari-subulatis usque 3 mm. longis erectis; corolla in alabastro angustissima apicem versus longe attenuata, tubo angusto 6 mm. longo, lobis lineari-attenuatis ca. 7 mm. longis.—Brazil: Rio Arinos, Matto Grosso, arbusto de galhos finos flexiveis, fl. roseas, December, 1914, *F. C. Hoehne* 1482 (Commissão Rondon; type in Herb. Field Mus.).

Faramea planitiarum Standl., sp. nov.—Frutex bimetralis omnino glaber, ramis gracilibus aliquanto complanatis, internodiis superioribus 7.5–12 cm. longis; stipulae deciduae, non visae; folia mediocria fere sessilia rigide membranacea, petiolo crasso vix ad 4 mm. longo; lamina anguste oblonga 12.5–15 cm. longa 4–5 cm. lata subito caudato-acuminata, acumine angusto attenuato acuto, basi anguste rotundata, supra in sicco viridis lucida, costa prominente, nervis prominulis, subtus paullo pallidior, costa tenera elevata, nervis lateralibus utroque latere ca. 14 angulo recto divaricatis tenerrimis fere rectis prominentibus juxta marginem arcuato-conjunctis, venulis prominentibus arcte reticulatis; inflorescentia terminalis laxe cymoso-paniculata sessilis multiflora 11 cm. longa 16 cm. lata basi triradiata, radiis basalibus usque 3.5 cm. longis, floribus plerumque in cymulas laxas trifloras dispositis, bracteis minutis

triangulari-attenuatis inconspicuis, pedicellis gracilibus usque 4 mm. longis; hypanthium obconico-obovoideum vix 1 mm. longum, calyce annulari vix 0.4 mm. alto undulato vel truncato; corolla intense caerulea extus glabra in alabastro apice acutiuscula vel obtusa, tubo crasso 5 mm. longo sursum paullo dilatato, lobis 4 subpatentibus lanceolato-oblongis 3 mm. longis intus minutissime papillosis obtusis; antherae breviter exsertae lineares 2 mm. longae.—Colombia: Comisaría El Vichada, Los Llanos, in rather open forest along Río Vichada, near San José de Ocune, alt. about 100 meters, May 4, 1939, *Oscar Haught* 2809 (type in Herb. Field Mus.).

Faramea stenodon Standl., sp. nov.—Arbor gracilis 6-metralis saltem in statu fructifero omnino glabra, ramulis in sicco fusco-olivaceis, internodiis elongatis; stipulae deciduae, non visae; folia mediocria breviter petiolata firme membranacea, petiolo ca. 8 mm. longo; lamina anguste elliptico-oblonga vel oblanceolato-oblonga 13–17.5 cm. longa 4–6 cm. lata, apice acutiuscula et subito caudata, acumine lineari usque 2 cm. longo, basi cuneato-acuta, supra in sicco opaca, costa prominente, nervis manifestis sed vix elevatis, subtus concolor, costa tenera prominente, nervis lateralibus utroque latere ca. 17 teneris subarcuatis angulo lato interdum fere recto divergentibus prope marginem in nervum collectivum crenatum conjunctis, venulis prominulis laxe reticulatis; inflorescentia terminalis 4.5 cm. longe pedunculata erecta corymbiformis in statu fructifero 3 cm. longa et 6.5 cm. lata laxe pauciflora e basi 4-radiata, pedicellis crassis 5–8 mm. longis ad apices ramulorum umbellatis; fructus depresso-globosus laevis ca. 6 mm. altus et 10 mm. latus; sepala ad apicem fructus persistentia lineari-subulata 2–2.5 mm. longa.—Colombia: Intendencia del Chocó, La Concepción, 15 km. east of Quibdó, alt. 75 meters, April–May, 1931, *W. A. Archer* 2098 (type in Herb. Field Mus.).

The rather handsome leaves are practically 3-nerved because of the well developed collective nerve close to the margin. The extremely narrow calyx lobes are an unusual character in the genus.

Faramea stenomeris Standl., sp. nov.—Frutex omnino glaber, ramis gracilibus teretibus viridescentibus, internodiis plerumque 2.5–5 cm. longis; stipulae fere liberae persistentes et plus minusve induratae subrotundae vix ultra 1 mm. longae, apice abrupte in setulam rigidam 1 mm. longam vel paullo ultra contractae; folia parva sessilia coriacea in sicco lutescentia lanceolato-linearia 5–8 cm. longa 5–12 mm. lata apicem angustum fere subulatum versus longe angusteque attenuata, basin acutam versus breviter angustata, basi ipsa

acuta, supra viridia, costa pallida prominente, nervis vix elevatis, subtus multo pallidiora, costa gracili prominente, nervis lateralibus manifestis sed non elevatis brevibus angulo lato divergentibus irregularibus, venis obsoletis, margine insigniter cartilagineo-incrassato pallido; inflorescentia terminalis breviter pedunculata subumbellatim 3–5-flora, bracteis nullis, pedicellis gracilibus rigidis ca. 13 mm. longis lutescentibus; hypanthium in sicco angulatum 1.5 mm. longum, calyce campanulato 1.5 mm. longo angulato, dentibus triangulari-subulatis remotis rigidis vix 0.6 mm. longis erectis; corolla alba extus glabra, tubo tenui ca. 15 mm. longo sursum paullo sensim dilatato et 1.2 mm. lato, lobis lineari-lanceolatis longiattenuatis 10 mm. longis patentibus; fructus globosus laevis 8 mm. diam. basi et apice late rotundatus.—Brazil: Rio Tapajoz, S. Gabriel, mata, aparece em todas as cacheiras, January, 1915, *J. G. Kuhlmann* 1462 (Commissão Rondon; type in Herb. Field Mus.).

The leaves are unusual, being narrow and somewhat suggestive of the genus *Salix*, and with conspicuous, pale, cartilaginous margins.

Faramea Terryae Standl., sp. nov.—Frutex 2–2.5 m. altus glaber, ramis gracilibus subteretibus viridibus, internodiis plerumque 3–4.5 cm. longis; stipulae in tubum 2.5 cm. longum 2.5–3 mm. latum connatae, tubo basi circumscisso et uno latere fisso caduco, apice utroque latere lobis 2 ca. 5 mm. longis subulatis aucto; folia inter minora breviter petiolata membranacea, petiolo crassiusculo 3–4 mm. longo; lamina anguste lanceolato-oblonga 11–12.5 cm. longa 2.5–3.5 cm. lata abrupte longe angusteque attenuato-acuminata, acumine fere lineari ca. 1.5 cm. longo, basi acuta, supra in sicco laete viridis sublucida, costa prominente, nervis venisque prominulis, subtus fere concolor, costa tenera prominente, nervis lateralibus utroque latere ca. 23 tenerrimis prominulis angulo lato divergentibus prope marginem in nervum irregularem collectivum conjunctis, venis paucis obscuris laxe reticulatis; inflorescentia terminalis umbellata capituliformis pauciflora 2.5 cm. longe pedunculata erecta basi bracteis 2 foliaceis viridibus et bracteis 2 interioribus ut videtur pallidis multo brevioribus fulcrata; bracteae exteriores rotundo-ovatae fere 2.5 cm. longae abrupte longeque caudato-acuminatae, interioribus tenuibus vix ultra 1 cm. longis; flores breviter pedicellati; hypanthium late obovoideum 1.5 mm. longum, calyce annuliformi ca. 0.6 mm. alto truncato remote minuteque denticulato.—Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 10, 1940, *M. E. & R. A. Terry* 1479 (type in Herb. Field Mus.).

The form of the inflorescence is unlike that of any other Central American *Faramea*, especially in the two pairs of large bracts that completely hide the flowers. The long and narrow stipule sheath also is peculiar. Only a single inflorescence is available for examination, and it is not in satisfactory condition for study.

Ferdinandusa chlorantha (Wedd.) Standl. Trop. Woods 34: 41. 1933. *Gomphosia chlorantha* Wedd. Ann. Sci. Nat. III. 10: 14. 1848.—This species has been collected several times in Peru, whence it was originally described. Two recent collections attest its presence in Brazil: State of Amazonas, Municipality São Paulo de Olivença, basin of Belem Creek, October–December, 1936, a tree 15 meters high, the trunk 10 cm. in diameter, terra firma, high forest, *B. A. Krukoff* 8912. Porto Velho, Rio Madeira, civ. Amazonas, silva non inundabili, arbor parva, flor. viridialbis, June, 1936, *A. Ducke* 35057. The second collection was once determined by the writer as a new species, and assigned a name under which specimens may have been distributed to other herbaria. Further study shows that the tree represented is inseparable from *F. chlorantha.*

Ferdinandusa guainiae Spruce ex Schum. in Mart. Fl. Bras. 6, pt. 6: 211. 18889.—A new collection of this rare tree is worthy of report: Brazil: Rio Curucuriary affl. Rio Negro, civ. Amazonas, ad ripas inundatas, arbor parva, flor. albis, December, 1931, *A. Ducke* 24374.

Ferdinandusa hirsuta Standl. Field Mus. Bot. 8: 158. 1930.—The species was based upon a single collection, *Killip & Smith* 30159 from Manáos, Brazil. More recently a second collection has come to hand, from the same region: Manáos, silva non inundabili prope cataractam maiorem fluminis Tarumá, arbuscula, flor. albis, July, 1937, *A. Ducke* 543.

Ferdinandusa leucantha Standl., sp. nov.—Arbor parva omnino glabra, ramulis crassis teretibus, internodiis brevibus; stipulae caducae fere hyalinae pallide brunnescentes late ovatae obtusae ca. 14 mm. longae; folia magna petiolata firme pergamentacea, petiolo crassiusculo 3–4 cm. longo; lamina elliptico-oblonga usque obovato-elliptica 19–25 cm. longa 8–11 cm. lata, apice obtusissima vel subrotundata et subito in acumen triangularem paullo ultra 1 cm. longum contracta, basi acuta vel abrupte contracta, supra in sicco sublucida fuscescens vel brunnescens, costa nervisque perspicuis sed vix elevatis, subtus vix pallidior, costa tenera prominente, nervis lateralibus utroque latere ca. 12 teneris prominentibus angulo latius-

culo adscendentibus fere rectis juxta marginem subito sursum curvatis; inflorescentia terminalis sessilis paniculata corollis exclusis ca. 3 cm. longa et 2 cm. lata laxe pauciflora, pedicellis rigidis crassiusculis 5–15 mm. longis; hypanthium breve in pedicellum sensim angustatum, calyce fere annuliformi vix ultra 1 mm. alto truncato; discus elevatus et subtumidus; corolla alba glabra, tubo crassiusculo 2 cm. longo prope medium paullo ultra 2 mm. lato, fauce vix dilatato, lobis 5 patentibus anguste oblongo-lanceolatis tubo aequilongis.—Brazil: Esperança ad ostium fluminis Javary, civ. Amazonas, silva non inundabili, September 20, 1931, *A. Ducke* 24388 (type in Herb. Field Mus.).

The genus to which this small tree has been referred is not an altogether satisfactory disposition of it, but no better place can be found until the fruit is known. If really referable to *Ferdinandusa*, it is quite distinct from all other Brazilian species, particularly in shape of the corolla.

Gonzalagunia bracteosa (Donn. Smith) Robinson, Proc. Amer. Acad. 45: 405. 1910. *Gonzalea bracteosa* Donn. Smith, Bot. Gaz. 33: 252. 1902.—When the account of the genus *Gonzalagunia* (under the name *Duggena*) was published in *North American Flora* (32: 133. 1921), only the type collection of this well marked species was known, *J. D. Smith* 6583 from Suerre, Llanuras de Santa Clara, Costa Rica, at 300 meters. In the same country *G. bracteosa* has been collected at various localities in the Atlantic lowlands, and very recently it has been found also in Panama. The following collections are worthy of citation: Panama: Cana–Cuasi trail, Camp 1, Chepigana District, Prov. Darién, alt. 240 meters, March, 1940, *M. E. & R. A. Terry* 1621; a shrub of 1–2 meters, the flowers white.—Costa Rica: Villa Quesada, Cantón de San Carlos, Prov. Alajuela, alt. 625–825 meters, March, 1939, *Austin Smith* F1766, F1770, F1820. Mr. Smith's notes supply the following information: In Caribbean rain forest; a slender shrub of 2–4 meters, the bark light brown; calyx green, with brown tomentum.

Hamelia pedicellata Wernham, Journ. Bot. 49: 212. 1911.—Many of the species of *Hamelia* are nearly related and not too sharply separable. This one, which has a wide distribution in Venezuela and Colombia, is closely related to *H. patens* Jacq. and *H. nodosa* Mart. & Gal., differing principally in the well developed pedicels, those of the two species mentioned being very short or none. *Hamelia pedicellata* has not been known heretofore from North America, but the following collection seems clearly referable to it:

Panama: Tucuti, Chepigana District, Prov. Darién, at sea level, March, 1940, *M. E. & R. A. Terry* 1406; a shrub of 2.5–3.5 meters, the flowers orange or orange-scarlet.

Hillia Ulei Krause, Verh. Bot. Ver. Brandenb. 50: 97. 1908.—Heretofore the species has been known only from Loreto, Peru, but its range is now shown to extend to the eastern lowlands of Bolivia: Dept. La Paz, Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, "vine," July, 1939, *B. A. Krukoff* 10171.

Hoffmannia Steyermarkii Standl., sp. nov.—Frutex subephyticus omnino glaber ut videtur sparse ramosus, ramis viridibus subteretibus laevibusque, internodiis plerumque 4–7 cm. longis; stipulae valde reductae fere annuliformes brevissimae; folia modica ternata longiuscule petiolata membranacea, petiolo gracili 1–2.5 cm. longo superne anguste alato; lamina lineari-oblanceolata vel angustissime oblongo-oblanceolata vulgo 9–15 cm. longa et 1.2–2.5 cm. lata, longe angusteque attenuato-acuminata, apice ipso subobtuso, basin versus longe angusteque attenuata et longe decurrens, supra viridis laevis, costa manifesta sed non elevata, nervis obsoletis vel obscuris, subtus pallidior, costa pallida prominula, nervis lateralibus utroque latere ca. 8 obscuris arcuatis angulo lato fere recto adscendentibus, venis omnino occultis; inflorescentiae axillares sessiles cymosae laxe pauciflorae usque 3 cm. longae, floribus pedicellatis vel pro parte sessilibus, pedicellis usque 5 mm. longis; hypanthium oblongo-turbinatum 2.5 mm. longum basi contractum; calyx vix 1 mm. longus 2–2.5 mm. latus remote brevissime 4-dentatus, dentibus latissime triangularibus latioribus quam longis obtusis; corolla glabra, tubo crasso 4 mm. longo inferne 2 mm. lato faucem versus paullo sensimque dilatato, lobis 4 rotundo-obovatis apice late rotundatis 5 mm. longis vel paullo ultra; antherae subexsertae; bacca globosa 6–7 mm. diam.; semina numerosa irregularia ca. 1 mm. diam. angulata fusco-brunnea profunde punctata et reticulata.—Guatemala: Dept. San Marcos, between Canjulá and La Unión Juárez, near southeast portion of Volcán de Tacaná, alt. 2,000–3,000 meters, February 22, 1940, *Julian A. Steyermark* 36426 (type in Herb. Field Mus.).

"A shrubby epiphyte, growing from the base of a tree trunk on forested slopes of the barranco of Río (Tonaná) Suchaté. Leaves firmly membranaceous, dark, dull green above, silvery, pale green beneath. Flowers pendent. Calyx pale green. Pedicels pale green, tinged with rose. Corolla pale rose, the anthers buff whitish,

the stigma whitish." The affinity of this species is with *Hoffmannia cryptoneura* Standl., described from Mt. Ovando, Chiapas. Both agree in having faint, almost obsolete lateral leaf nerves and obsolete veins. The leaves of *H. cryptoneura* are relatively much wider than those of the Guatemalan plant, the calyx lobes are rather well developed and narrow, and the corolla lobes are almost linear.

Machaonia martinicensis (DC.) Standl., comb. nov. *Tertrea martinicensis* DC. Prodr. 4: 481. 1830. *Schiedea martinicensis* A. Rich. Mém. Soc. Hist. Nat. Paris 5: 186. 1834. *Machaonia rotundata* Griseb. Fl. Brit. W. Ind. 348. 1861.

In *North American Flora* (32: 222. 1934) the writer listed *Tertrea martinicensis*, the type of the genera *Tertrea* DC. (1830) and *Schiedea* A. Rich. (1834; non Schlecht. & Cham., 1826) at the end of the genus *Machaonia*, as an undetermined species of that group. No material had been seen of the Martinique plant, which had not been placed definitely by other writers after its original publication. Apparently the plant has not appeared in recent Martinique collections, but there is now in the Herbarium of Field Museum a photograph and fragment of the type from the Richard Herbarium, received by Field Museum from the Muséum d'Histoire Naturelle of Paris. Comparison of this authentic material with the available specimens of *Machaonia rotundata*, reveals no differences, and the new name cited above therefore seems necessary. The species is known at present also from Jamaica, Costa Rica, and Panama.

Machaonia martinicensis var. **Dodgei** (Standl.) Standl., comb. nov. *Machaonia rotundata* var. *Dodgei* Standl. Bot. Ser. Field Mus. 18: 1326. 1938.

Morinda hoffmannioides Standl., sp. nov.—Frutex gracilis 2–3-metralis, ramis subteretibus in sicco fuscis minutissime puberulis vel fere glabris, internodiis superioribus 2–3 cm. longis; stipulae persistentes fere semiorbiculares 3 mm. longae muticae; folia magna petiolata membranacea, petiolo gracili 1.5–3.5 cm. longo microscopice puberulo superne alato; lamina oblongo-elliptica vel lanceolato-oblonga vulgo 20–25 cm. longa et 6–8 cm. lata acuminata, basin versus angustata vel saepius subabrupte contracta et longe decurrens, supra in sicco fusco-viridis glaberrima sublucida, costa nervisque prominulis, subtus paullo pallidior saltem ad costam nervosque microscopice puberula, costa crassa prominente, nervis lateralibus utroque latere ca. 15 teneris prominulis angulo lato adscendentibus arcuatis prope marginem arcuato-conjunctis, venis vix obviis laxe

reticulatis; flores ut dicitur albi capitati, capitulis axillaribus solitariis brevissime crasseque pedunculatis densissime multifloris ante anthesin ca. 7 mm. latis, floribus arcte sessilibus; calyx cum hypanthio vix 1 mm. longus truncatus microscopice puberulus; corolla in alabastro obtusa ca. 2 mm. longa (ad anthesin multo longior?) minute puberula; capitula fructifera paucicarpellata ca. 1 cm. diam., fructu apice profunde depresso, pyrenis plus minusve compressis apice subtruncatis et emarginatis.—Colombia: Intendencia El Meta, Los Llanos, flood plain of Río Negrito, 70 km. east of Villavicencio, December 24, 1939, *Oscar Haught* 2485 (type in Herb. Field Mus.).

There is some doubt that the plant here described really is a species of *Morinda*, but it agrees better with that genus than with any other that has been considered. From other species occurring in South America it differs conspicuously in its large, thin leaves, and especially in the small, almost sessile heads with but few fruits, which, when dried, are coherent only at the base.

Palicourea boyacana Standl., sp. nov.—Frutex 3.5 m. altus, trunco 10 cm. diam., praeter corollas et paginam inferiorem foliorum ut videtur omnino glaber, ramulis gracilibus in sicco fusco-brunnescentibus subteretibus, internodiis valde elongatis; stipulae erectae ca. 5 mm. longae fere ad basin bilobae, lobis latissime ovatis obtusis approximatis; folia majuscula petiolata firme chartacea, petiolo gracili ca. 3.5 cm. longo; lamina elliptica 18 cm. longa 9 cm. lata subito breviterque acuminata, basi acuta, subtus paullo pallidior in sicco fusco-brunnescens, sparsissime minuteque strigillosa vel fere glabra, costa gracili elevata, nervis lateralibus utroque latere ca. 20 arcuatis tenerrimis prominentibus in marginem desinentibus, venulis laxe reticulatis; inflorescentia ampla terminalis sessilis cymoso-paniculata et corymbiformis, e basi triradiata, ca. 11 cm. longa et 19 cm. lata laxe multiflora, ramis infimis angulo semirecto adscendentibus, ramis omnibus basi bracteatis, bracteis patentibus ovatis acutiusculis usque 5 mm. longis, pedicellis rigidiusculis plerumque 4–7 mm. longis; hypanthium 2 mm. longum glabrum basi con pedicello articulatum fere 2 mm. latum, sepalis fere liberis latissime ovatis vix ad 1.5 mm. longis acutatis ciliolatis; corolla aurantiaca in alabastro obtusissima, extus sparse minute puberula ca. 28 mm. longa, tubo crassiusculo sursum paullo dilatato basi uno latere paullo dilatato, lobis oblongo-ovatis obtusis ca. 5 mm. longis intus puberulis.—Colombia: Chapón region, State of Boyacá, dense edge of forest, alt. 1,350 meters, June 3, 1932, *A. E. Lawrance* 154 (type in Herb. Field Mus.; duplicate in U. S. Nat. Herb.).

Palicourea Duckei Standl., sp. nov.—Arbor parva, inflorescentiis rubris, floribus rubroviolaceis, ramulis crassis glabris subteretibus, internodiis ut videtur elongatis; stipularum vagina brevissima, lobis utroque latere 2 remotis triangularibus acutis puberulis 5 mm. longis; folia magna breviter petiolata membranacea, petiolo crasso pilosulo 12 mm. longo; lamina oblongo-elliptica ca. 19 cm. longa atque 8 cm. lata (vel multo major?) subabrupte acuminata, acumine attenuato, basi acuta, supra in sicco sublucida fusca glabra, subtus fere concolor, densiuscule pilis laxis patentibus brevibus pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 16 teneris angulo lato adscendentibus subarcuatis marginem fere attingentibus; inflorescentia terminalis magna anguste thyrsiformis 8 cm. longe pedunculata ca. 18 cm. longa et prope basin 6 cm. lata, sat dense multiflora, ramis primariis omnibus abbreviatis et vix ultra 1 cm. longis basi bracteatis, bracteis anguste triangularibus acutis vel subobtusis usque 5 mm. longis puberulis, ramis dense breviter patulo-pilosis, floribus fere omnibus pedicellatis, pedicellis crassiusculis usque 4 mm. longis sed saepius brevioribus dense pilosis; hypanthium crasse columnare 1–1.5 mm. longum dense pilosulum; calyx annuliformis vix 1 mm. longus puberulus, margine obscure undulato-lobulato; corolla in alabastro apice obtusissima glabra vel tantum prope basin apicemque minute puberula fere 2 cm. longa, tubo crasso sursum paullo dilatato et 4 mm. lato, basi paullo dilatato, lobis late ovatis obtusis erectis 2.5 mm. longis.—Brazil: Manáos, Colonia Campos Salles, silva secundaria non inundabili, October 5, 1927, *A. Ducke* 23092 (type in Herb. Field Mus.).

It is strange that a *Palicourea* from a region so often visited by collectors has not received a name, and perhaps it has, but I have been unable to associate the type with any of the very numerous species of the Amazon Valley.

Palicourea Garciae Standl., sp. nov.—Arbuscula 5-metralis, ramis nodosis crassiusculis viridibus subteretibus tantum ad nodos sordido-puberulis aliter glabris, internodiis brevibus; stipulae latae 3 mm. tantum longae apice breviter bilobae, lobis approximatis obtusis; folia parva breviter petiolata membranacea, petiolo 4–7 mm. longo glabro; lamina elliptica vel obovato-elliptica 4.5–8 cm. longa 2–3.5 cm. lata subito caudato-acuminata, acumine angusto obtuso, basi acuta, supra in sicco opaca fusca, costa prominente, nervis obscuris, subtus pallidior ad costam nervosque hispidula vel villosula, aliter glabra, costa tenera prominente, nervis lateralibus utroque latere ca. 16 tenerrimis angulo fere recto divergentibus in marginem

desinentibus, venis obsoletis; inflorescentia terminalis sessilis laxe cymoso-paniculata multiflora usque 7 cm. longa et 10 cm. lata basi triradiata, radiis basalibus usque 3 cm. longis, ramis sparse hispidulis vel fere glabris rectis gracilibus, bracteis parvis inconspicuis triangulari-subulatis, pedicellis glabris usque 2 mm. longis saepe nullis; hypanthium glabrum crassum 1 mm. longum, calyce 1 mm. longo viridi profunde lobato, lobis inaequalibus ovali-ovatis apice rotundatis vel obtusissimis glabris; corolla lutescens 9 mm. longa glabra, tubo crasso basi manifeste uno latere dilatato medio 2 mm. crasso, lobis obtusis suberectis ca. 2 mm. longis; stamina inclusa; fructus oblongus basi et apice obtusus glaber 5 mm. longus 3 mm. latus, pyrenis grosse costatis.—Colombia: Dense forest, Dept. El Valle, San Antonio, west of Cali, near summit of Cordillera Occidental, alt. 1,900–2,350 meters, February–March, 1939, *E. P. Killip & Hernando García* 33660 (type in Herb. Field Mus.).

Palicourea Mello-Barretoi Standl., sp. nov.—Frutex, ramis teretibus lutescentibus infra nodos sparse breviterque hirtellis vel fere glabris; vagina stipularis brevissima truncata, lobis remotis rigidis erectis subulatis 3–4 mm. longis persistentibus; folia inter minora brevissime petiolata coriacea, petiolo crasso vix ad 2 mm. longo, interdum nullo; lamina oblonga vel ovali-oblonga 3–6 cm. longa 1.5–3 cm. lata, apice rotundata vel obtusa atque apiculata, basi obtusa vel subrotundata, supra lutescenti-viridis dense scabropilosula, costa nervisque prominulis, subtus concolor dense hirtellopilosula, tactu aspera, costa crassa elevata, nervis lateralibus utroque latere ca. 9 elevatis arcuatis angulo ca. semirecto adscendentibus marginem attingentibus, venis paucis prominulis laxe reticulatis; inflorescentia terminalis 2.5 cm. longe vel ultra pedunculata cymosa et fastigiato-ramosa 2.5 cm. longa et aequilata vel major densissime multiflora, e basi ut videtur 3- vel pluriradiata, ramis omnibus basi bracteatis dense fulvo-hirtellis, bracteis parvis inconspicuis triangulari-subulatis 1–3 mm. longis hirtellis, floribus sessilibus vel breviter crasseque pedicellatis; hypanthium columnare luteo-hirtellum vix ultra 1 mm. longum, calyce vix 1 mm. longo hirtello breviter inaequaliter lobato, lobis late ovatis apiculatis; corolla 8 mm. longa extus dense luteo-hirtella in albastro apice obtusissima, tubo gracili vix 1 mm. lato sursum paullo dilatato, lobis obtusis brevissimis.—Brazil: Cerrado, Estrada de Brejo das Almas, Municipio Montes Claros, Minas Geraes, November 9, 1938, *H. Mello Barreto* 12013 (*F. Markgraf* 3148; herb. Jard. Bot. Bello Horizonte 28151; type in Herb. Field Mus.).

"Inflorescence vermillion; flowers orange." The nearest relative of *P. Mello-Barretoi* is *P. coriacea* (Cham.) Schum., a rather common Brazilian plant, which differs in having abundant, large, somewhat foliaceous bracts in the inflorescence. The leaves of the two species are much alike.

Palicourea Mexiae Standl., sp. nov.—Ramuli crassi sparse breviterque pilosi; stipulae fere 1 cm. longae subfoliaceae profunde bilobae extus dense adpresso-pilosulae, lobis latis approximatis apice obtusis vel rotundatis; folia inter maxima breviter petiolata crasse membranacea, petiolo crasso 1.5–3 cm. longo sparse pilosulo vel fere glabro; lamina obovato-oblonga 25–32 cm. longa 10–12 cm. lata, apice obtusissima vel rotundata et subito breviterque acuminata, basin acuminatam angustam versus sensim cuneato-angustata, supra sublucida glabra, costa nervisque perspicuis sed vix elevatis, subtus fere concolor minute puncticulata saltem ad costam venasque breviter fere minute pilosula tactu asperula, costa tenera elevata, nervis lateralibus utroque latere ca. 22 teneris prominulis arcuatis angulo lato interdum recto abeuntibus, nervo 1 secundario inter paria primariorum saepe obvio, venis fere obsoletis; inflorescentia terminalis amplissima sessilis basi triradiata cymoso-paniculata ca. 14 cm. longa et 22 cm. lata laxe multiflora, ramis late divergentibus omnibus basi bracteatis dense breviter pilosulis, bracteis anguste triangularibus patulis pilosulis, floribus pro parte sessilibus sed plerumque pedicellatis, pedicellis usque 7 mm. longis; hypanthium cum pedicello articulatum 2.5 mm. longum dense sordido-villosulum; sepala 5 fere libera viridia lanceolato-linearia 4–7 mm. longa sparse puberula ciliata; corolla caerulea ca. 13 mm. longa in alabastro obtusissima extus densissime adpresso-tomentosa, tubo crasso ca. 3 mm. lato basi dilatato, lobis obtusis 3 mm. longis; fructus immaturus 7–8 mm. longus obovoideus apice calyce persistente coronatus sparse villosulus vel sordido-puberulus, pyrenis acute costatis.—Ecuador: Prov. Esmeraldas, Parroquia de Concepción, Playa Rica, stream side in forest, alt. 105 meters, December 11, 1936, *Ynes Mexia* 8434 (type in Herb. Field Mus.).

"Flowers white within; corolla blue, pink-tipped exteriorly. Ornamental."

Palicourea rigida HBK. var. **stenophylla** Standl., var. nov. —Folia petiolata, lamina anguste oblongo-oblanceolata vel fere lineari-oblanceolata 12.5–26 cm. longa apicem versus 2.5–5.5 cm. lata, apice obtusa et apiculata, basin versus longe sensimque attenu-

ata; caetera ut in forma typica speciei.—Brazil: Without locality, date, or name of collector, *F. C. Hoehne* 19763 (type in Herb. Field Mus.).

The plant, unfortunately without definite data, represents a form of this widespread species that is notable for its extremely narrow leaves. Otherwise it probably has no particular significance.

Palicourea Sodiroi Standl., sp. nov.—Subarborea, ramulis gracilibus in sicco fuscis subteretibus vel obtuse tetragonis glabris, internodiis elongatis ad 11 cm. longis; stipulae erectae persistentes ca. 7 mm. longae profunde bilobae, lobis approximatis ovatis acutis vaginae aequilongis vel longioribus; folia modica petiolata pergamentacea in sicco fusca, petiolo crassiusculo 1.5–3 cm. longo glabro; lamina elliptico-oblonga 10.5–18 cm. longa 4.5–8.5 cm. lata subito acuminata vel breviter acuminata, basi obtusa vel acuta, supra sublucida glabra, costa prominula, subtus concolor ad costam nervosque minute strigillosa vel fere omnino glabra, costa tenera prominente, nervis lateralibus utroque latere ca. 12 arcuatis prominulis teneris angulo lato interdum fere recto abeuntibus juxta marginem arcuato-junctis, venis vix elevatis laxe reticulatis, ubique subtus dense pallido-puncticulata; inflorescentia terminalis 6–8 cm. longe pedunculata elongato-thyrsiformis et fere spiciformis ca. 20 cm. longa et 3 cm. lata dense multiflora, rhachi crassa puberula, ramis omnibus abbreviatis et basi bracteatis, bracteis tenuibus ovatis acutis vix ultra 3 mm. longis persistentibus inconspicuis; hypanthium glabrum 1 mm. longum obovoideum, calyce late campanulato fere ad basin lobato, lobis late ovatis acutiusculis erectis; corolla fere 2 cm. longa extus glabra anguste tubulosa superne vix latior, tubo basi paullo dilatato medio fere 2 mm. lato, lobis suberectis late ovatis acutiusculis intus minute puberulis vix ultra 1.5 mm. longis.—Ecuador: Nanegal, August, 1874, *P. L. Sodiro* (type in herb. Budapest; photograph and fragment in Herb. Field Mus.).

Marked by the combination of greatly elongate and almost spike-like inflorescence and practically glabrous leaves. The inflorescence appears to have been erect in the living state.

Palicourea vacillans Standl., sp. nov.—Frutex 1.5 m. altus, ramis teretibus brunneis sparse puberulis, internodiis plerumque elongatis; vagina stipularis lata vix 2 mm. longa puberula, lobis remotis linearibus erectis usque 4 mm. longis viridibus; folia modica fere sessilia firme membranacea, petiolo vix ultra 2 mm. longo; lamina oblongo-lanceolata ad anguste oblonga vel ovato-oblonga

7–11 cm. longa 2–5 cm. lata anguste longiacuminata, basi anguste rotundata vel saepe emarginata vel breviter cordata, supra in sicco sublucida lutescens sparse minuteque puberula vel scaberula, costa nervisque prominulis, subtus paullo pallidior dense breviter velutino-pilosula, costa tenera prominente, nervis lateralibus utroque latere ca. 13 arcuatis teneris prominentibus angulo lato saepe fere recto abeuntibus in marginem desinentibus, venis paucis laxe reticulatis inconspicuis; inflorescentia terminalis sessilis et e basi triradiata vel longipedunculata et basi foliaceo-bracteata fastigiato-cymosa, 3.5–5 cm. longa et 4–7 cm. lata, ramis suberectis basi nudis sed supra basin interdum bracteatis ferrugineo-brunneis hirtellis, bracteis parvis subulatis, pedicellis crassis angulatis usque 7 mm. longis; fructus subglobosus vel didymo-globosus 5 mm. longus 5–6 mm. latus sparse puberulus, pyrenis dorso grosse obtuseque costatis.—Brazil: State of Minas Geraes, Diamantina, near km. 997.5 of railroad, in overgrown pasture, alt. 1,260 meters, common, fruit yellowish green, May 6, 1931, *Ynes Mexia* 5768 (type in Herb. Field Mus.).

The sessile leaves afford an easy means of recognizing this species.

Pentagonia brachyotis Standl. Journ. Wash. Acad. Sci. 17: 171. 1927. *Watsonamra brachyotis* Standl. Contr. U. S. Nat. Herb. 17: 443. 1914.—Known previously only from the type, collected near Marragantí, Panama. A recent collection is worthy of citation: Panama: Cana–Cuasi trail, Camp 2, Chepigana District, Prov. Darién, alt. 600 meters, March 9, 1940, an herb or shrub 60–180 cm. high, the flowers crimson, *M. E. & R. A. Terry* 1426.

Psychotria amplifrons Standl., sp. nov.—Ramuli crassi obtuse tetragoni, novellis sordide puberulis vel villosulis; stipulae non visae, ut videtur caducae; folia inter maxima petiolata membranacea, petiolo 7–8 cm. longo villosulo vel glabrato; lamina elliptica, ut videtur usque 40 cm. longa (apice non viso), 17–20 cm. lata, prope basin subito contracta et longe angusteque cuneato-decurrens, supra in sicco fusca glabra, costa sulcata, nervis non elevatis, subtus brunnescens praesertim ad costam nervosque dense breviterque villosula, aliter sparse minute villosula vel glabrata, costa crassiuscula prominente, nervis lateralibus numerosis prominentibus angulo recto vel fere recto divergentibus fere rectis juxta marginem sursum curvatis et arcuato-conjunctis, venis paucis prominulis laxe reticulatis; inflorescentia terminalis ampla breviter pedunculata cymoso-paniculata dense multiflora ca. 8 cm. longa et duplo latior, ramis plerumque late divaricatis basi bracteatis sparse praesertim ad nodos villosulis vel fere glabris, bracteis patentibus ovato-oblongis acumi-

natis 3–4 mm. longis sparse villosulis, floribus dense aggregatis sessilibus vel breviter crasse pedicellatis; hypanthium breve columnare glabrum, calyce campanulato 2.5–3 mm. longo glabrato ad medium lobato, lobis ovali-ovatis obtusissimis erectis; corolla extus glabra vel glabrata in alabastro apice crasse obtuseque 5-verrucosa, tubo superne dilatato, lobis 5 patentibus triangulari-oblongis tubo aequilongis intus puberulis, fauce parce barbato; antherae oblongae subexsertae.—Ecuador: In silv. conv. Nanegal, August, 1874, *P. L. Sodiro* (type in herb. Budapest; photograph and fragment in Herb. Field Mus.).

The leaves are larger than those of any other Ecuadorean species, and are equaled in size by few if any species from other parts of tropical America.

Psychotria axillaris Willd. Sp. Pl. 1: 962. 1797. *Appunia parviflora* Lundell, Contr. Univ. Mich. Herb. 4: 28. 1940.—The type of *Appunia parviflora* is *Gentle* 2986 from Silk Grass Reserve, British Honduras. *Psychotria axillaris* is fairly common in some parts of South America and widely distributed, ranging from Colombia through the Guianas and southward far into Brazil and to the western slopes of Bolivia. In North America, rather strangely, it has been collected, so far as herbarium material indicates, only along the Atlantic coast of Guatemala and in British Honduras. Such a range is a quite natural one, but it is somewhat strange that the species has not been found anywhere between Colombia and Guatemala. Probably it will be discovered there when those intervening areas have been more thoroughly explored.

Psychotria boliviana Standl. Field Mus. Bot. 7: 302. 1931.—Of this species, endemic, so far as now known, in Bolivia, several collections have been made recently, all from the Department of La Paz: Prov. Larecaja, Tuiri, near Mapiri, left bank of Río Mapiri, alt. 490–750 meters, a shrub of 5 meters, September, 1939, *B. A. Krukoff* 10906; a shrub of 3.5 meters, *Krukoff* 10981. Prov. Larecaja, Copacabana, about 10 km. south of Mapiri, alt. 850–950 meters, a tree of 6 meters, *Krukoff* 11248; a shrub of 3 meters, *Krukoff* 11378. Prov. S. Yungas, basin of Río Bopi, San Bartolomé, near Calisaya, alt. 750–900 meters, July, 1939, a shrub of 4 meters, *Krukoff* 10362.

Psychotria Bradei Standl., sp. nov.—Frutex ut videtur densissime ramosus dense foliatus, ramis gracillimis subteretibus dense breviter hispidulis, pilis patulis vel adscendentibus, internodiis plerum-

que brevibus; stipulae persistentes in vaginam vix 1 mm. longam subtruncatam connatae, vagina utroque latere setis 2 erectis ca. 1 mm. longis vel interdum bene longioribus onusta; folia inter minima breviter petiolata rigide membranacea, petiolo gracili hispidulo vel puberulo usque 4 mm. longo; lamina elliptica ad lanceolato-elliptica 1.5–3 cm. longa 7–12 mm. lata acuta vel acuminata, acumine ipso anguste obtuso, basi cuneato-acuta, supra in sicco fusco-viridis glabra sublucida, costa tenerrima prominula, nervis obsoletis, subtus paullo pallidior ad costam teneram prominentem sparse puberula vel fere glabra, nervis lateralibus utroque latere ca. 9 obliquis prominulis arcuatis prope marginem conjunctis, venis paucis inconspicuis; inflorescentiae terminales 1–3-florae sessiles vel breviter pedunculatae, pedicellis puberulis usque 3 mm. longis rigidis, bracteis subulatis parvis; hypanthium puberulum obconicum ca. 1.2 mm. longum, calyce campanulato 4-dentato extus puberulo 0.8 mm. longo, dentibus triangularibus acutis; corolla ut dicitur alba, non visa; fructus caeruleus glaber subglobosus basi et apice rotundatus ca. 4 mm. longus et aequilatus.—Brazil: Estado do Rio de Janeiro, Sta. M. Magdalena, Alto da Republica, March 3, 1935, *Santos Lima & A. C. Brade* 14275 (herb. Jard. Bot. Rio 27681; type in Herb. Field Mus.). Sta. Magdalena, Alto do Desengano, alt. 2,000 meters, March 5, 1934, *Santos Lima & Brade* 13356 (herb. Jard. Bot. Rio 24609).

It is strange that so well marked a species occurring in Rio de Janeiro should not have been named long ago, but I have found no name that seemed applicable to this plant. Moreover, Mr. Brade's recent explorations in this state have discovered a number of other Rubiaceae that seemed to be new. *P. Bradei* is noteworthy for the greatly reduced leaves and inflorescences.

Psychotria chiococcoides Standl., sp. nov.—Subgenus *Mapouria*. Frutex glaber, ramis gracillimis teretibus fuscis sparse lenticellatis, internodiis plus minusve elongatis; stipulae caducae oblongo-lanceolatae 4 mm. longae ferrugineae acuminatae apicem versus interdum sparse pilosae; folia parva petiolata membranacea in sicco fusca, petiolo gracili 4–7 mm. longo; lamina oblongo-elliptica vel lanceolato-elliptica 4–6 cm. longa 1.5–2.5 cm. lata, acuta vel acuminata, basin versus sensim cuneato-angustata vel interdum subabrupte contracta et attenuato-decurrens, supra opaca, costa nervisque vix elevatis, subtus concolor, costa gracili prominente, nervis lateralibus utroque latere ca. 8 paullo irregularibus prominulis arcuatis laxe arcuato-conjunctis, venis obscuris; inflorescentia termi-

nalis cymoso-paniculata parva laxissime pauciflora 2–3 cm. longa et aequilata vel latior, gracillime ca. 3 cm. longe pedunculata, floribus omnibus pedicellatis, pedicellis gracillimis usque 5 mm. longis, bracteis minutis; fructus globosus ca. 3 mm. diam. basi et apice rotundatus, pyrenis dorso obtuse costatis.—Brazil: Mogi-Guassu, São Paulo, July 18, 1902, *collector unknown* (*F. C. Hoehne* 11890; type in Herb. Field Mus.).

The plant is related to **Psychotria capillacea** (Muell. Arg.) Standl., comb. nov. (*Mapouria capillacea* Muell. Arg. in Mart. Fl. Bras. 6, pt. 5: 405. 1881), whose leaves are rather long-acuminate at the apex and merely acute at the base. The inflorescences of the two species are much alike.

Psychotria foetidiflora Standl., sp. nov.—Frutex 2–4-metralis, ramis teretibus in sicco fuscis lenticellatis glabris, internodiis elongatis; stipulae coriaceae persistentes in vaginam latam 3 mm. longam truncatam glabram connatae, utroque latere lobis 2 subulatis 4–4.5 mm. longis rigidis erectis auctae; folia modica breviter petiolata papyracea, petiolo 6–8 mm. longo glabro crassiusculo; lamina lanceolato-oblonga 14–22 cm. longa 4.5–7.5 cm. lata longissime et subabrupte attenuato-acuminata, acumine saepe aliquanto falcato, basi acuta vel subcontracta et attenuato-decurrens, supra glabra, costa nervisque prominentibus, venulis vix prominulis reticulatis, subtus fere concolor, glabra vel glabrata, costa gracili elevata, nervis lateralibus utroque latere ca. 9 prominentibus pallidis angulo lato, saepe fere recto, adscendentibus arcuatis arcuatim prope marginem conjunctis, venis prominulis laxe reticulatis; inflorescentia terminalis sat dense multiflora cymoso-paniculata, paniculis 3–6.5 cm. longis 2.5–4 cm. latis, ramis sparse minuteque puberulis vel fere glabris crassiusculis, infimis patentibus vel adscendentibus, omnibus basi bracteatis, bracteis minutis saepe fere nullis, floribus plerumque sessilibus cymose aggregatis; hypanthium late columnare glabrum 1 mm. longum, calyce late campanulato 1 mm. longo truncato et remote minutissime denticulato glabro; flores foetidissimi albi, corolla extus glabra in alabastro apice obtusissima 4–5 mm. longa, in fauce dense pilis longis albis barbata, lobis patentibus vel recurvis lineari-oblongis obtusis tubo multo longioribus; antherae longiexsertae oblongae 1 mm. longae.—Brazil: Parintins, civ. Amazonas, silva non inundabili, December 12, 1935, *A. Ducke* 34998 (type in Herb. Field Mus.).

Psychotria Garciae Standl., sp. nov.—Subgenus *Mapouria*. Frutex metralis omnino glaber dense ramosus, ramis teretibus fer-

rugineis, novellis in sicco fuscis, internodiis foliis duplo brevioribus; stipulae caducae membranaceae ferrugineae ca. 4 mm. longae subtruncatae primo coalitae serius uno latere fissae, utroque latere apice appendice 3–5 mm. longo subulato auctae; folia inter minima breviter petiolata rigide membranacea, petiolo crassiusculo usque 5 mm. longo; lamina anguste oblongo-lanceolata usque lineari-lanceolata vel lineari-oblanceolata 2–4 cm. longa 5–10 mm. lata longe angusteque attenuata, apice ipso acutiusculo, basin versus longe angusteque attenuata, supra in sicco fusca opaca, nervis venisque occultis, subtus brunnescens, costa vix prominula, nervis lateralibus utroque latere ca. 6 obliquis irregularibus angulo ca semirecto adscendentibus inconspicuis, venis obsoletis; flores ut videtur terminales et subcapitato-aggregati (vel solitarii?) sessiles foliis occulti; calyx ad apicem fructus persistens campanulatus fere ad medium dentatus; fructus ovalis 6–7 mm. longus, pyrenis dorso obtuse grosse costatis.—Colombia: Dept. Nariño, east side of Gorgona Island, near sea level, in dense forest along stream, February 11, 1939, *E. P. Killip & Hernando García* 33152 (type in Herb. Field Mus.).

A species of distinctive appearance, because of the very dense foliage and small, narrow leaves, and also on account of the peculiar inflorescences, which, however, are not well represented upon the single specimen available for study. The relationship is probably with *P. chagrensis* Standl., of Panama, Costa Rica, and Nicaragua.

Psychotria luxurians Rusby, Mem. Torrey Club 6: 50. 1896.—The species was described from the eastern slopes of the Bolivian Andes, and ranges northward to Colombia. It has not been recorded from North America, but the following collections have appeared recently from Panama: Rain forest, Cana–Cuasi trail, Real District, Prov. Darién, alt. 1,650 meters, a shrub of 2.5–3.5 meters, March, 1940, *M. E. & R. A. Terry* 1573; same region, Camp 2, alt. 600 meters, March, 1940, a shrub of 2–2.5 meters, flowers white, No. 1524; same region, Camp 2, a tree of 4.5–9 meters, No. 1458.

Psychotria macrophylla R. & P. var. **angustissima** Standl., var. nov.—A forma typica speciei ut videtur differt tantum foliis insigniter angustis, lamina lineari-lanceolata vel angustissime lanceolata 20–25 cm. longa 2.5–4 cm. lata longissime angusteque attenuata.—Panama: Rain forest, north slope, Cana–Cuasi trail, Real District, Prov. Darién, alt. 1,650 meters, March 16, 1940, *M. E. & R. A. Terry* 1597 (type in Herb. Field Mus.). Cana–Cuasi trail, Camp 2, Chepigana District, alt. 1,200 meters, March 12, 1940, *M. E. & R. A. Terry* 1530.

Described as an herb 30–90 cm. high, with white flowers. *Psychotria macrophylla*, described originally from Peru, has a wide range, from Bolivia northward to southern Mexico. In this area it exhibits considerable variation, and it may well be that when the now abundant herbarium specimens are carefully studied, it will be found that more than one species is represented. The plant here described is notable for the extremely narrow leaves, the narrowest I have noted from any region, and very different from those of the common form. There are, however, intermediate specimens, and the inflorescence is similar to that of broad-leaved plants.

Psychotria mima Standl., sp. nov.—Arbuscula vel frutex ut videtur dense ramosus, ramis teretibus fuscis vel ferrugineis, novellis puberulis glabrescentibus, internodiis saepissime brevibus, vetustioribus magis elongatis; stipulae persistentes in vaginam puberulam vel pilosulam vix ultra 2 mm. longam connatae, vagina utroque latere in lobos 2 subulatos erectos fere aequilongos desinente; folia inter minora petiolata crasse membranacea vel fere subcoriacea, petiolo gracili vel crassiusculo vulgo 8–12 mm. longo breviter pilosulo; lamina lanceolato-oblonga vel anguste elliptico-oblonga, medio vel interdum supra medium latissima, acuminata vel longiacuminata, acumine anguste acuto, basi anguste cuneata vel basin versus longiattenuata, supra in sicco fusca glabra vix lucida, costa nervisque obscuris, subtus vix pallidior saepe brunnescens sat dense pilis brevibus subpatulis vel subadpressis pilosula tactu mollis, costa tenera prominente, nervis lateralibus utroque latere ca. 9 angulo lato adscendentibus arcuatis prominentibus, venis inconspicuis laxe reticulatis; flores ad apices ramorum pauci vel numerosi capitato-congesti sessiles, bracteis parvis vel minutis; hypanthium obconicum vix 1 mm. longum ut calyx dense puberulum, calyce late campanulato ca. 4.5 mm. longo fere ad medium vel multo brevius dentato, dentibus inaequalibus acutiusculis late triangularibus, calyce interdum subtruncato et remote dentato; corolla extus densissime basi tubi fere glabra tantum excepta pilis minutis subadpressis pallidis sericea, tubo 7–8 mm. longo fauce vix dilatato, intus in fauce barbata, lobis patentibus vel recurvis tubo paullo brevioribus lineari-oblongis obtusis; antherae lineari-oblongae semiexsertae; fructus globoso-ovalis ca. 7 mm. longus et fere aequilatus sparse hirtellus vel glabratus calyce paullo accrescente coronatus.—Brazil (State of São Paulo): Dense forest, Estação Biologica, Alto da Serra, alt. 800–900 meters, February 12, 1929, *L. B. Smith* 1878 (type in Herb. Field Mus.);

same locality, February 6, 1920, *A. Gehrt* 4500; March 4, 1918, *F. C. Hoehne* 1590; March 4, 1931, *Hoehne* 27225.

The several well preserved specimens are all alike and represent a distinct specific entity that is without an earlier name, so far as I have been able to discover. The collections, rather remarkably, have been referred at various times to the genera *Faramea*, *Alibertia*, and *Uragoga*, to the first two of which they certainly have little similarity.

Psychotria necopinata Standl. Field Mus. Bot. 11: 242. 1936.—The type is *Holt & Gehriger* 386 from the Rio Negro, Brazil, and one other specimen from the same region was cited with the original description. Two other collections typical of the species have come to hand more recently: Brazil: Rio Curicuriary affl. Rio Negro, silva ad ripas rupestres infra cataractas, frutex vel arbuscula usque 4 m. alta, flor. sordide aurantiacis, December, 1931, *A. Ducke* 24425.—French Guiana(?): Guyane, *Moricand* 205 (ex herb. Delessert). The species is one of a rather large number that might be placed about equally well in either *Psychotria* or *Cephaelis*.

Psychotria Pachecoana Standl. & Steyerm., sp. nov.—Frutex ramosus 2–2.5 m. altus, ramis gracilibus teretibus viridibus vel olivaceis dense pilis brevibus patulis lutescentibus pilosulis, internodiis plerumque brevibus; stipulae persistentes dense fulvo-pilosulae, vagina lata aliquanto incrassata ca. 4 mm. alta truncata, lobis remotis 3–4 mm. longis et ultra anguste triangulari-attenuatis erectis; folia breviter petiolata crasse membranacea, petiolo gracili 5–15 mm. longo dense breviterque piloso; lamina oblongo-oblanceolata vel anguste oblongo-lanceolata 7–15 cm. longa 2–4 cm. lata longe angusteque attenuata, basin angustam versus longe cuneato-angustata, supra viridis ubique sat dense pilis brevibus patulis vel subadpressis lutescentibus pilosa, costa nervisque obviis sed non elevatis, subtus pallidior et lutescens, dense velutino-pilosa, costa gracili elevata, nervis lateralibus utroque latere ca. 20 prominentibus leviter arcuatis angulo lato adscendentibus, venulis arcte reticulatis; inflorescentia terminalis 1.5–2 cm. longe pedunculata cymoso-paniculata multiramosa dense multiflora in statu fructifero 3.5–5 cm. longa et usque 7 cm. lata, ramis omnibus basi bracteatis fere rectangule patentibus dense hispidulo-pilosis, bracteis fere subulatis usque 4 mm. longis, floribus sessilibus dense aggregatis; fructus subglobosus 4 mm. longus basi et apice rotundatus sparse hirtellus, pyrenis dorso grosse obtuseque costatis.—Guatemala: Damp forest, mountain side north of the divide rising north of Santa Rosa, Dept.

Baja Verapaz, alt. about 1,650 meters, March 30, 1939, *Paul C. Standley* 69922 (type in Herb. Field Mus.). Near San José, southeast of Tactic, Dept. Alta Verapaz, alt. 1,500 meters, wet thicket, March 30, 1939, *Standley* 69627.

The species is a well marked one, not obviously related to any other of southern Mexico or northern Central America, and noteworthy especially for the very dense, close, yellowish pubescence. It is named for Don Mariano Pacheco Herrarte of the Dirección General de Agricultura of Guatemala, to whom we are indebted for innumerable courtesies and favors during the course of our work in Guatemala.

Psychotria Sodiroi Standl., sp. nov.—Arbuscula, ramulis gracilibus subteretibus olivaceo-ochraceis, novellis ut videtur in sicco viridibus dense et minutissime puberulis vel glabratis, internodiis brevibus; vagina stipularis lata 3 mm. longa dense adpresso-pilosa, lobis utroque latere 2 erectis viridibus 4–5 mm. longis linearis-attenuatis glabris; folia parva breviter petiolata membranacea, petiolo tenui 6–15 mm. longo minute puberulo; lamina anguste lanceolato-oblonga 7–12 cm. longa 2–3.5 cm. lata subabrupte angusteque longiacuminata, acumine fere caudiformi interdum subfalcato usque 2 cm. longo, basi acuta, supra viridis glabra, costa elevata, nervis non elevatis, subtus pallidior ad costam nervosque sparse vel dense pilosa, aliter glabra vel glabrata, costa tenerrima prominente, nervis lateralibus utroque latere ca. 14 arcuatis prominulis angulo lato divergentibus juxta marginem arcuato-conjunctis, venulis vix prominulis laxe reticulatis, nervo 1 secundario intra paria primariorum et cum eis parallelo addito; inflorescentia terminalis 2 cm. longe pedunculata laxe multiflora cymoso-paniculata ca. 4 cm. longa et 6 cm. lata e basi triradiata, ramis gracilibus patentibus basi bracteatis dense adpresso-pilosis, basalibus usque 1.8 cm. longis, bracteis basalibus linearibus et usque 17 mm. longis, ceteris oblongis ad ovatis viridibus et foliaceis obtusis ca. 4 mm. longis arcte imbricatis et flores involventibus, floribus sessilibus ad apices ramulorum dense aggregatis; hypanthium minute puberulum ovale vix 1 mm. longum, calyce campanulato viridescente minute puberulo profunde lobato, lobis late triangulari-ovatis acutiusculis erectis; corolla in alabastro 5 mm. longa apice obtusissima prope apicem minute hirtella, inferne glabra, tubo crasso superne vix dilatato, lobis tubo plus quam duplo brevioribus.—Ecuador: Nanegal, August, 1874, *P. L. Sodiro* (type in herb. Budapest; photograph and fragment in Herb. Field Mus.).

Psychotria solitudinum Standl., sp. nov.—Frutex 3-metralis, ramis gracillimis, vetustioribus ochraceis obtuse tetragonis, novellis viridibus glabris in sicco infra nodos paullo constrictis, internodiis superioribus 3–4.5 cm. longis; stipulae 4 mm. longae virides persistentes erectae bilobae, segmentis approximatis rigidis obtusis vel subacutis; folia modica petiolata papyracea, petiolo gracili 2–2.5 cm. longo glabro; lamina elliptico-oblonga 15–17.5 cm. longa 6–7 cm. lata abrupte breviter acuminata, acumine anguste triangulari acuminato, basi acuta, glabra, supra in sicco viridis, costa nervisque prominentibus, subtus multo pallidior, costa tenera elevata, nervis lateralibus utroque latere ca. 15 teneris prominentibus pallidis angulo lato abeuntibus leviter arcuatis prope marginem arcuato-conjunctis, venis fere obsoletis; inflorescentia terminalis ca. 7.5 cm. longe pedunculata cymoso-paniculata erecta(?) laxissima, pedunculo superne breviter hirtello, panicula ca. 11 cm. longa et aequilata vel latiore, ramis gracillimis omnibus basi bracteatis patentibus vel subreflexis hirtellis, bracteis plerumque ovatis et ca. 3 mm. longis, inferioribus paullo longioribus viridibus persistentibus hirtellis, floribus secus ramos sessilibus remotis; hypanthium puberulum latum ca. 0.8 mm. longum, calyce campanulato in sicco lutescente puberulo truncato ca. 1.2 mm. alto; corolla in alabastro apice breviter obtuse 5-tuberculata extus sat dense breviter pilosa, expansa 7–8 mm. longa lutea, tubo brevissimo glabrato subito in faucem 3–3.5 mm. latum dilatato, lobis ovato-oblongis obtusis fere 2 mm. longis.—Costa Rica: In forest, vicinity of El General, Prov. San José, alt. 700 meters, June, 1939, *Alexander F. Skutch* 4347 (type in Herb. Field Mus.).

In the key to the species of *Psychotria* in *Flora of Costa Rica* the plant would run directly to *P. cuspidata* Bredem., a species to which it is not closely related. It is more closely related to *P. Berteriana* DC. in which the calyx is dentate.

Psychotria vichadensis Standl., sp. nov.—Frutex nanus sat dense ramosus 40–50 cm. altus, ramis gracillimis subteretibus brunnescentibus vel viridibus dense minute puberulis, internodiis vulgo foliis duplo brevioribus; stipulae persistentes virides vix 1 mm. longae, inferne in vaginam truncatam coalitae, lobis utroque latere 2 brevibus remotis subulatis erectis; folia inter minima breviter petiolata firme membranacea, petiolo gracili e lamina non bene distincto usque 4 mm. longo; lamina lineari-lanceolata 2.5–3.5 cm. longa 4–6 mm. lata apicem angustum versus longe sensimque attenuata, basin versus longe anguste attenuata et fere ad basin petioli decurrens, supra lutescens lucida glabra, costa prominula, subtus

paullo pallidior, sparse minutissime puberula vel fere glabra, costa tenui prominente, nervis lateralibus utroque latere ca. 7 tenerrimis irregularibus angulo semirecto vel paullo latiore adscendentibus; flores terminales capitato-aggregati, capitulis brevissime pedunculatis ca. 5-floris, floribus arcte sessilibus, bracteis exterioribus 1.5–2 mm. longis viridibus ovatis acuminatis; hypanthium subglobosum ca. 0.5 mm. longum puberulum, calyce cupuliformi paullo breviore minute inaequaliter dentato; corolla alba extus minute sparseque pilosula apice rotundata, 6 mm. longa, tubo sursum paullo dilatato, lobis oblongo-ovatis acutiusculis tubo ca. duplo brevioribus ut videtur patulis; antherae lineares exsertae 1 mm. longae.—Colombia: Comisaría El Vichada, abundant in sandy soil along Río Vichada, in forest, near San José de Ocune, alt. 100 meters, May 4, 1939, *Oscar Haught* 2807 (type in Herb. Field Mus.).

A well differentiated species, marked by its dwarf habit, almost minute flower heads, and especially by the exceedingly small and narrow leaves.

Rudgea cipoana Standl., sp. nov.—Frutex bimetralis, ramis crassiusculis teretibus in sicco brunnescentibus glabris, internodiis elongatis; stipulae ca. 1 cm. longae coriaceae persistentes basi incrassatae, ad medium vel profundius laciniato-lobatae, laciniis subulatis hispidulis; folia modica glabra breviter petiolata coriacea, petiolo crasso 5–8 mm. longo; lamina anguste lineari-lanceolata vel fere lineari-oblonga 8–13 cm. longa 1.3–2.5 cm. lata apicem acutum versus angustata, basin versus longe angusteque angustata, sublucida, supra in sicco olivacea, costa pallida vix elevata, nervis manifestis sed non elevatis, subtus multo pallidior, costa valde elevata, nervis lateralibus utroque latere ca. 13 teneris prominulis irregularibus angulo ca. semirecto adscendentibus prope marginem irregulariter conjunctis, venis prominulis laxe reticulatis, margine plus minusve revoluto; inflorescentiae parvae terminales capituliformes dense multiflorae obscure trilobae 1.5 cm. longe pedunculatae, in statu fructifero 1.5 cm. latae, floribus arcte sessilibus; calyx ad apicem fructus persistens, sepalis fere distinctis subulato-attenuatis ca. 2 mm. longis; fructus globosus 5–6 mm. longus glaber.—Brazil: Minas Geraes, capão, Serra do Cipó, km. 134, Municipio Santa Luzia, common, February 4, 1938, *H. Mello Barreto* 8892 (herb. Jard. Bot. Bello Horizonte 26197; type in Herb. Field Mus.).

Distinguishing characters of the species are the almost free, long and narrow calyx lobes, and the unusually narrow, leathery leaves, conspicuously paler on the under surface.

Rudgea hypomalaca Standl., sp. nov.—Frutex vel arbuscula, ramis crassis nodosis subteretibus ochraceis vel sordidis dense breviter hirtellis; stipulae persistentes et plus minusve induratae 5–8 mm. longae alte connatae extus dense hirtellae vel sordido-puberulae, lobis latis obtusis extus ad vel infra apicem setis paucis vel numerosis stramineis subulatis brevibus onustae, intus ad basin dense subulato-setosae; folia modica breviter petiolata coriacea vel subcoriacea, petiolo crasso 4–8 mm. longo dense hirtello; lamina oblonga, elliptico-oblonga vel lanceolato-oblonga, interdum supra medium paullo latior, acuta vel subacuminata, apice ipso vulgo obtuso, basi cuneato-angustata vel interdum subito contracta et acuta, supra in sicco fusca vel aliquanto flavescens glabra, costa saepe anguste impressa, nervis tenerrimis prominulis, sublucida, subtus pallidior ubique sat dense molliterque pilis patulis pilosa, costa elevata, nervis lateralibus utroque latere ca. 10 teneris prominentibus angulo lato adscendentibus subarcuatis, venulis prominulis laxe reticulatis, margine interdum revoluto; inflorescentiae terminales sessiles capitatae dense multiflorae 1.5–2 cm. diam., bracteis extimis stipulis conformibus, floribus arcte sessilibus; calyx extus dense fulvo-pilosus fere ad basin lobatus, lobis inaequalibus triangulari-oblongis obtusis vel acutiusculis usque 2 mm. longis; corolla alba extus dense villosulo-pilosa 12 mm. longa, tubo late obconico, lobis lanceolato-oblongis obtusis patentibus intus ad basin longivillosis; stamina breviter exserta, filamentis tubo corollae bene longioribus gracilibus, antheris anguste oblongis 2 mm. longis; discus glaber tumidus.—Brazil (State of Minas Geraes): Capoeira, Serra do Itacolomy, Municipio Ouro Preto, October, 1937, *J. Badini* 3161 (Jard. Bot. Bello Horizonte 22483; type in Herb. Field Mus.); same locality, campo, September 24, 1938, *Badini* 3208; matta, October 9, 1938, *Badini* 3251. Beira de corrego, Falcão (Ouro Preto), October 10, 1938, *Badini* 3241; October 23, 1938, *Badini* 3248.

The most obvious character of this Brazilian species is the abundant, soft, velvety pubescence of the lower leaf surface.

Rudgea mazanensis Standl., sp. nov.—Frutex 3-metralis glaber, ramis gracilibus sed rigidis subteretibus ochraceis, internodiis elongatis; stipulae persistentes coriaceae breviter bilobae intus ad basin dense setis incrassatis pallidis onustae 2–3 mm. longae, lobis latis obtusis vel rotundatis; folia modica fere sessilia firme papyracea, petiolo crassiusculo vix ultra 2 mm. longo; lamina variabilis ovata usque late ovata vel late elliptica 6.5–11 cm. longa 3.5–6.5 cm. lata subito sensimve longiacuminata, basi rotundata vel anguste

rotundata, interdum paullo angustata, basi ipsa obtusa usque truncata, glabra, supra in sicco lutescenti-olivacea, costa nervisque prominentibus, subtus fere concolor, costa tenera prominente, nervis lateralibus utroque latere ca. 8 teneris prominentibus angulo lato interdum fere recto abeuntibus subarcuatis, venulis vix prominulis laxe reticulatis; inflorescentia parva terminalis sessilis vel subsessilis cymosa sat dense multiflora vix ad 2 cm. longa et aequilata, floribus plerumque in cymulas trifloras dispositis, flore terminali cymulae sessili, lateralibus sessilibus vel pedicellatis, pedicellis crassiusculis vix ultra 1 mm. longis, bracteis minutis late ovatis inconspicuis; hypanthium obovoideum ca. 1.2 mm. longum, calyce campanulari vix ultra 1 mm. longo truncato; corolla alba in alabastro apice obtusissima extus glabra, tubo ut videtur brevissimo; fructus 5 mm. longus in sicco obtuse quadrangularis.—Peru: Dept. Loreto, Gamitanacocha, Río Mazán, river bank, alt. 100–125 meters, March 5, 1935, *José M. Schunke* 351 (type in Herb. Field Mus.).

In general appearance as well as in details this is similar to the widespread *Rudgea cornifolia* (Humb. & Bonpl.) Standl., which might well be expected to occur in Peru, but in that species the inflorescence is always long-pedunculate.

Rudgea Mello-Barretoi Standl., sp. nov.—Frutex 1–3 metralis, ramis crassis valde nodosis subteretibus cinereis vel pallide ochraceis, internodiis abbreviatis, novellis dense hispidulis; stipulae ca. 5 mm. longae fere liberae triangulari-ovatae hispidulae subulato-mucronatae, basi et infra apicem setis paucis incrassatis pallidis auctae, longe persistentes et basi valde incrassatae; folia inter minora brevissime petiolata vel subsessilia crasse coriacea, petiolo crasso vix ultra 2 mm. longo hispidulo, saepius fere nullo; lamina oblonga vel oblongo-ovalis 3.5–5.5 cm. longa 1.5–3.5 cm. lata obtusa usque rotundata, basi obtusa usque breviter cordata, supra viridis lucida glabra, costa, nervis et venis prominulis, subtus paullo pallidior, saltem prope basin et ad costam breviter hirtella, serius fere glabra, costa crassiuscula prominente, nervis lateralibus utroque latere ca. 7 prominentibus subarcuatis angulo latiusculo adscendentibus, prope marginem irregulariter conjunctis, venis prominentibus arcte reticulatis, margine interdum revoluto; inflorescentia terminalis densissime multiflora thyrsiformis vel fere capituliformis usque 3 cm. longa et 2.5 cm. lata sed interdum multo brevior breviter vel longiuscule pedunculata, ramis omnibus abbreviatis crassis puberulis, floribus sessilibus, bracteis parvis inconspicuis lanceolatis vel ovatis; hypanthium late obovoideum puberulum vel fere glabrum, sepalis fere

distinctis 1 mm. longis viridibus oblongo-lanceolatis acutis fere glabris; corolla alba extus minute hirtella in alabastro obtusa, tubo crassiusculo sursum paullo dilatato 3.5–4 mm. longo, fauce albo-villoso, lobis patentibus aequilongis lanceolato-oblongis obtusis; apices tantum antherarum exsertae, stylo exserto.—Brazil: State of Minas Geraes, na pedra, Bandeirinha, Municipio Diamantina, common, November 10, 1937, *H. Mello Barreto* 9710 (herb. Jard. Bot. Bello Horizonte 22234; type in Herb. Field Mus.). Same locality, November 4, 1937, *Mello Barreto* 9433 (herb. Jard. Bot. Bello Horizonte 22230).

Rudgea Pittieri Standl., sp. nov.—Frutex vel arbuscula glabra, ramulis crassis in sicco striatis subteretibus vel aliquanto complanatis, internodiis elongatis; stipulae magnae persistentes et incrassatae 7–8 mm. longae et 1 cm. latae vel ultra apice late rotundatae, dorso paullo infra apicem appendice 5 mm. longo vel ultra oblongo auctae, appendice apice setoso-laciniato, setis pallidis numerosis crassis, intus quoque setiferae; folia inter maxima petiolata subcoriacea, petiolo crasso 2–3 cm. longo superne marginato; lamina elliptico-oblonga vel lanceolato-oblonga, interdum supra medium paullo latior, 17–24 cm. longa et 5.5–10 cm. lata vel major, apice acuminata vel subito contracta et breviter acuminata, basin versus cuneato-angustata et ad petiolum decurrens, supra in sicco lucida fuscescens, costa nervisque prominulis, costa basin versus sulcata, subtus pallidior, costa gracili elevata, nervis lateralibus utroque latere ca. 12 tenerrimis prominentibus angulo latiusculo vel interdum semirecto adscendentibus rectis vel leviter arcuatis prope marginem irregulare arcuato-junctis, venis obsoletis; inflorescentia terminalis (in statu fructifero tantum visa) breviter pedunculata ut videtur capitata et dense multi- vel pauciflora foliaceo-bracteata, floribus ut videtur omnibus sessilibus; fructus ovalis 1.5 cm. longus et 1 cm. vel ultra latus.—Panama: Loma de la Gloria, near Fató (Nombre de Dios), Prov. Colón, alt. 10–100 meters, July–August, 1911, *H. Pittier* 3855 (type in Herb. Field Mus.).

The two sheets of material at hand are in poor condition for study, and it is probably on this account that they have remained so long without a name. Floral details can not be determined. Only a few species of *Rudgea* are known from Central America, and this plant is different from all of them, especially in its very large leaves.

Rudgea pleurocalyx Standl., sp. nov.—Arbor parva omnino glabra, ramis teretibus ochraceis rigidis, novellis ut videtur viridibus; stipulae induratae et persistentes fere annuliformes vix ultra 2 mm.

longae, apice setulis numerosis approximatis et confertis brevibus incrassatis onustae; folia modica petiolata subcoriacea, petiolo 6–12 mm. longo; lamina elliptica vel oblongo-elliptica 8.5–14 cm. longa 4.5–7 cm. lata acuta vel subacuminata, basi obtusa vel subacuta, supra viridis lucida, costa nervisque prominentibus, subtus paullo pallidior lucida aliquanto flavescens, costa tenera prominente pallida, nervis lateralibus utroque latere ca. 9 teneris prominulis subarcuatis angulo latiusculo abeuntibus prope marginem arcuato-conjunctis, venulis prominulis arcte reticulatis; inflorescentia terminalis cymoso-corymbosa ca. 3.5 cm. longa et 3–5 cm. lata dense multiflora 1.5–2.5 cm. longe pedunculata, ramis basalibus vulgo 5 crassis suberectis, floribus sessilibus, bracteis late ovatis parvis; hypanthium crassum 1.5 mm. longum, calyce late campanulato 2.5–3 mm. longo costato-striato brevissime dentato, dentibus latissimis approximatis; corolla alba in alabastro apice obtusa, tubo crasso 9 mm. longo 3 mm. lato, lobis patentibus oblongis obtusis 5 mm. longis; antherae lineares subexsertae; stylus longiexsertus.—Brazil: Parintins, civ. Amazonas, Lago Uaicurapá, "igapó" secus rivulum juxta campinam, September 5, 1932, *A. Ducke* 24416 (type in Herb. Field Mus.).

Rustia Isernii Standl., sp. nov.—Frutex vel arbor ut videtur omnino glabra, ramulis crassiusculis ochraceis longitrorsum rugosis, internodiis superioribus abbreviatis; stipulae caducae, non visae; folia magna petiolata crasse papyracea, petiolo gracili 3–4 cm. longo; lamina obovata usque cuneato-oblanceolata 16–22 cm. longa 6.5–10 cm. lata, apice obtusa vel subrotundata atque breviter acutata, apice ipso obtuso, ad basin longe sensim cuneato-angustata, basi ipsa anguste acuta, supra in sicco sublucida fuscescens, costa nervisque prominentibus, subtus fere concolor, costa gracili elevata, nervis lateralibus utroque latere ca. 10 teneris prominentibus subarcuatis angulo latiusculo adscendentibus prope marginem laxe arcuato-conjunctis, venulis inconspicuis plerumque transversis et subparallelis arcuatis, laxe hinc inde reticulatis; inflorescentia terminalis breviter racemosa vel subcymosa condensata pauciflora sessilis, rhachi racemi ca. 7 mm. longa crassa, pedicellis crassiusculis plerumque 1–1.5 cm. longis; hypanthium brevissimum, calyce fere rotato 3 mm. lato obsolete lateque lobulato, disco supra calycem valde protruso; corolla ca. 2.8 cm. longa, tubo crasso sursum paullo dilatato fauce 4 mm. lato, lobis 5 anguste lanceolato-oblongis apicem versus angustatis acutis tubo fere aequilongis.—Peru: Chanchamayo, October 14, 1863, *Juan Isern* 2121 (type in Herb. Field Mus.); October 19, 1863, *Isern* 2126.

This is the first representative of the genus *Rustia* to be recorded for Peru.

SICKINGIA

Several years ago the writer reduced to synonymy under *Sickingia* (Field Mus. Bot. 12: 390. 1936) the genus *Calderonia*, originally described from Salvador, whose single species is now known to have a wide distribution in Yucatan and northern Central America. Further study shows that the genus *Exandra*, published at the same time as *Calderonia*, must likewise fall into the synonymy of *Sickingia*. Since a new species of the genus is to be described below, it is worth while to give a key to the species now known from Mexico and northern Central America.

Leaf blades oblong-obovate, mostly 4.5–8 cm. wide, the basal lateral nerves not emitting conspicuous secondary nerves on the outer side.....*S. salvadorensis.*

Leaf blades suborbicular to rounded-ovate or rounded-obovate or broadly elliptic, mostly 10–20 cm. wide or larger, the lowest lateral nerves emitting numerous conspicuous secondary nerves on the outer side.

Branches of the inflorescence very densely pilose-tomentose; leaves densely and softly villous beneath; capsule 5 cm. long. *S. mexicana.*

Branches of the inflorescence glabrate or merely sparsely puberulent; leaves merely puberulent beneath or sparsely pilose, barbate in the nerve axils.

Leaf blades densely and minutely puberulent beneath, rather deeply cordate at the base; capsule 4 cm. long. *S. Calderoniana.*

Leaf blades almost glabrous beneath but barbate in the nerve axils, conspicuously narrowed to the narrowly rounded or shallowly cordate base; capsules unknown. .*S. rhodoclada.*

Sickingia salvadorensis Standl. Field Mus. Bot. 12: 390. 1936. *Calderonia salvadorensis* Standl. Journ. Wash. Acad. Sci 13: 290. 1923.—The type was collected from a cultivated tree in the city of San Salvador, Salvador, *Calderón* 761. In the original description specimens were reported also from Tonacatepeque, Nahulingo, and Sonsonate, Salvador, and from Patalul, Dept. Sololá, Guatemala. The following additional material may be reported from the Herbarium of Field Museum: Yucatan: Without special locality, *Dr. Román S. Flores* in 1935.—Guatemala: Hiltún, Petén, *Lundell* 1933.

Uaxactún, Petén, bark white, red after exposure to the air, *H. H. Bartlett* 12428.—British Honduras: River bank, Río Grande, occasional, a tree of 18 meters, the trunk 60 cm. in diameter, flowers cream, *Schipp* 1198. Boom, lower Belize River, *Duncan Stevenson* 18. Punta Gorda region, *Schipp* 1214. Valentin, El Cayo District, a tree of 26 meters, the trunk 30 cm. in diameter, *Lundell* 6367. San Antonio, Toledo District, in 1929, *J. E. Thompson*. Stann Creek District, *F. G. Burne* (Yale School For. 9705).

The very narrow leaves of this species are distinctive, and all the material cited is reasonably uniform. Vernacular names reported are campeche, brasil, palo colorado, drago, sangre de chucho (Salvador); John Crow redwood, chactemuch, chuc-chenuch (British Honduras; the last two Maya).

Sickingia mexicana Bullock in Hook. Icon. ser. IV. 4: *pl. 3321*. 1936.—The species was based upon five collections from the states of Mexico and Guerrero, all made by Mr. George B. Hinton. The vernacular name is reported as Cucharillo. The shrub or tree is said to be 2–6 meters high, and to bear pink flowers. The species is a very distinct one, especially because of the dense pubescence covering almost all parts. One additional collection may be reported for it: Placeres, Distrito de Mina, Guerrero, Mexico, a tree of 4 meters, the anthers yellow, alt. 350 meters, September, 1937, *Hinton* 10391. In describing this species, its author remarks that one species of *Sickingia* "has been found in Honduras." I have seen no material from that country. Possibly British Honduras was intended, but that is a quite different country from Honduras.

Sickingia Calderoniana Standl., sp. nov.—Arbor, ramis crassis ochraceis vel subferrugineis subteretibus pallide elevato-lenticellatis primo ut videtur dense minuteque puberulis; stipulae anguste triangulares ca. 3.5 cm. longae longiattenuatae extus dense minutissime puberulae; folia magna petiolata herbacea, petiolo crasso 2.5–4.5 cm. longo dense puberulo; lamina late ovato-ovalis usque suborbicularis 16–26 cm. longa et 12–23 cm. lata vel major, apice breviter acutata vel acutiuscula, basi lata et vix angustata sat profunde (usque 3 cm.) cordata, sinu angusto, lobis posticis late rotundatis, supra sublucida, primo ut videtur densiuscule puberula, cito glabrata, costa nervisque non prominentibus, subtus pallidior, ubique dense minuteque sordido-puberula, in axillis nervorum et venarum hirsuto-barbata, costa gracili elevata, nervis lateralibus utroque latere ca. 13 angulo semirecto vel latiore adscendentibus fere rectis versus marginem nervos secundarios 2–3 dichotomos

emittentibus, nervis 2 infimis latere exteriore nervos secondarios plures prominentes et conspicuos emittentibus, venis prominentibus arcte reticulatis; capsula globosa 3–4 cm. longa apice plana, basi rotundata, dense pallido-lenticellata; semina, ala inclusa, ca. 2.5 cm. longa et fere 1 cm. lata, ala tenui diaphana.—Salvador: Jayaque, finca del Dr. Zárate, January 9, 1939, *Dr. Mario Levy Van Severén* 66 (type in Herb. Field Mus.; received from Dr. Salvador Calderón). Finca del Dr. Augusto Gómez Zárate, Tepecoyo, February 28, 1939, *Salvador Calderón* 66.

Local name, Brasil. Here may belong also a sterile specimen, *Calderón* 2189 from the Department of Santa Ana, collected in 1924. However, in both pubescence and outline the leaves vary substantially from the two collections of *S. Calderoniana*, and it may be that another species is represented. This sterile collection was once determined by the writer as *Exandra rhodoclada*, discussed below, but it is improbable that it, or two other Salvadorean ones in sterile condition reported in the original description of *Exandra rhodoclada*, really represent that species.

Sickingia Calderoniana is somewhat similar to *S. mexicana*, but in that the capsules are smaller, and in dehiscence their valves are somewhat upturned; those of *S. Calderoniana* remain plane. The dense, long pubescence of *S. mexicana* is a more conspicuous distinguishing character. There is some question as to whether *S. Calderoniana* is distinct from *S. rhodoclada*, whose capsules are unknown. The quantity and distribution of the leaf pubescence, and especially its character, are so different in the two series of specimens that it seems probable that two amply distinct trees are represented.

Sickingia rhodoclada (Standl.) Standl., comb. nov. *Exandra rhodoclada* Standl. Journ. Wash. Acad. Sci. 13: 292. 1923.—It is now obvious that *Exandra* must become a synonym of *Sickingia*, but its single species is a valid member of the latter genus. The type of *Exandra rhodoclada* is *E. W. Nelson* 2796, collected between La Venta and Niltepec, Oaxaca, Mexico. Two recent collections, both unfortunately sterile, appear to be conspecific: Fortuño, Coatzacoalcos River, Oaxaca, alt. 30–50 meters, March, 1937, *Llewelyn Williams* 8407. Uvero, Oaxaca, alt. 30–90 meters June, 1937, *Williams* 9439.

Mr. Williams reports the vernacular name as Nazareno and supplies the following notes: A tree 12–24 meters tall, with spreading crown; trunk moderately straight, round, 20–40 cm. or more in diameter, free of branches for as much as 9 meters, slightly fluted;

branches few, stout, upright or almost vertically disposed; bark medium brown, fairly smooth; inner bark white when cut but turning bright pink on exposure; buttresses 4, about 60 cm. high; sapwood cream-colored to deep brown; heartwood rich vermillion or dark brown to almost black, distinctly defined. A deep pinkish red resin exudes when the bark is cut. Wood not difficult to cut, splits easily, valued for railroad ties, ax handles, bridge construction, and other uses requiring strength and durability. Fairly common at Fortuño, uncommon about Uvero. Growing in upland forest.

Steyermarkia Standl., gen. nov.—Herbae perennes suffruticosae fere acaules, caule brevissimo nodoso suffruticoso, longihirsutae; folia opposita ad apicem caulis dense conferta magna membranacea breviter petiolata acuta vel acuminata, basin versus longe angustata; stipulae lineari-lanceolatae subfoliaceae et virides persistentes; flores tetrameri magni rosei cymosi, cymis dense multifloris capituliforme condensatis vel subracemosis, inflorescentia longipedunculata axillari, bracteis magnis linearibus foliaceis; hypanthium semiglobosum vel campanulatum pilis longissimis glanduliferis obtectum; calycis lobi 4 fere liberi lineares erecti elongati et subfoliacei persistentes; corolla hypocraterimorpha extus dense longipilosa, tubo elongato gracili fauce vix dilatato, in fauce non barbato, limbo tubo duplo breviore 4-lobo, lobis magnis subaequalibus late ovalibus apice rotundatis intus basin versus pilis sparsis papilliformibus 2–3-locularibus conspersis, late patentibus, in alabastro contortis; stamina 4 in fauce tubi inserta inclusa, filamentis brevibus, antheris dorsifixis linearibus obtusis; discus annularis; ovarium 2-loculare, stylo filiformi, ramis 2 brevibus oblongo-linearibus subrecurvis inclusis; ovula in loculis numerosis placentis septo affixis inserta, anatropa; capsula subglobosa majuscula coriacea 2-locularis loculicide ut videtur bivalvis polysperma; semina minuta globosa exangulata, testa leviter reticulata vix foveolata.

Type species, *Steyermarkia guatemalensis* Standl.

Steyermarkia guatemalensis Standl., sp. nov.—Suffruticosa, caule usque 8 mm. crasso vix ad 8 cm. longo, nodis brevissimis, prope apicem densissime foliato; stipulae lineari-lanceolatae usque 2 cm. longae longissime attenuatae, extus dense albido-hirsutae intus glabrae; folia magna tenuiter herbacea, petiolo usque 4 cm. longo sed vulgo multo breviore longihirsuto; lamina oblanceolato-oblonga vulgo 16–28 cm. longa et 5–10 cm. lata acuta vel acuminata, basin versus longe sensimque arcuato-angustata, basi ipsa acuta, supra viridis dense longihirsuta, pilis patentibus albidis usque 6 mm. longis

vel ultra, subtus pallida densius longihirsuta, costa tenera prominente, nervis lateralibus utroque latere ca. 16 teneris prominentibus angulo semirecto vel latiore adscendentibus, venis inconspicuis laxe reticulatis; pedunculi axillares 9–12.5 cm. longi nudi longihirsuti, inflorescentia dense congesta et capituliformi, corollis exclusis ca. 5 cm. lata, vel e cymis 3 composita, cymis infimis breviter pedunculatis a terminali 3.5 cm. distantibus, bracteis infimis viridibus usque 2 cm. longis anguste lanceolatis longiattenuatis, interioribus paullo angustioribus sed fere aequilongis dense hirsutis, floribus sessilibus vel breviter pedicellatis; hypanthium breve dense pilis longis glanduliferis indutum, sepalis anguste linearibus erectis hirsutis 10–14 mm. longis; corolla extus dense pilis longis patentibus albidis hirsuta, tubo gracili 3.5–4 cm. longo 2 mm. lato, in fauce breviter angusteque dilatato, limbo patente profunde lobato, lobis ca. 18 mm. longis et 1 cm. latis, tubo intus glabro; stamina ca. 1.5 cm. infra orem tubi inserta, antheris 5–6 mm. longis 1.2 mm. latis, filamentis 2 mm. longis glabris; stigmata papillosa; capsula 7–8 mm. longa dense longihirsuta in sicco straminea basi rotundata; semina sublucida 0.4 mm. diam. fusco-brunnea.—Guatemala: Dept. Izabal, Río Dulce, 2–4 miles west of Livingston, on south side (left-hand side going up the river), at sea level, April 16, 1940, *Julian A. Steyermark* 39520 (type in Herb. Field Mus.).

"Suffruticose. On shaded, moist, limestone bluffs, near their base. Leaves membranaceous, dull grass-green above, the midrib prominent beneath, greenish white. Calyx lobes pale green. Corolla white in the center, with regular, equal, orchid-pink lobes. The lobes in dried specimens have shrunk one-third; in life the corolla limb measures 4.5–5 cm. in width."

This new genus is named for its collector, Dr. Julian A. Steyermark, Assistant Curator of the Herbarium of Field Museum, as a well deserved tribute to his enthusiastic and intensive investigation of the Guatemalan flora, during the Stanley Field Expedition of 1939–40. The plant described is so showy and conspicuous that one wonders that it has escaped other rather numerous botanical collectors who have visited the Río Dulce. Perhaps it is rare and very local in occurrence.

In habit this rubiaceous herb much suggests some of the Acanthaceae, being almost acaulescent, with a large number of long, thin leaves disposed so densely as to appear rosulate. Well above the leaf cluster rise the long, stiff, naked peduncles, bearing dense clusters of showy, bright pink, long-tubular flowers. To one familiar with

the Rubiaceae it is clear that the plants, in spite of the unusual size of their leaves and flowers, bear much resemblance to the genus *Sipanea*, to which structural details indicate their close relationship. The genus *Sipanea*, of the tribe Rondeletieae, has a number of species in tropical South America, and one ranges northward to the westernmost Antilles, but no species have been recorded for continental North America. In *Sipanea* the plants are low herbs with elongate, leafy stems, along which are scattered the small leaves. The flowers are 5-parted, the corolla usually yellow-barbate in the throat, and the seeds angulate and conspicuously reticulate. The habit of the Guatemalan plant, combined with 4-parted flowers, naked corolla throat, and globose, not angulate seeds, are sufficient characters for its recognition as a distinct genus.

The corolla limb in *Steyermarkia* is rather shallowly lobed, that is, not nearly to its base. The pubescence of the young hypanthium and probably also of other parts consists of very long and slender hairs that at first are gland-tipped. The glands disappear at an early stage, perhaps breaking from the hair tips or possibly being absorbed in some manner.

THE LIBRARY OF THE
SEP 18 1940
UNIVERSITY OF ILLINOIS

UNIVERSITY OF ILLINOIS-URBANA
3 0112 018259181